

349. FISHES, ETC. Swan (John). Speculum Mundi; or a Glass representing the Face of the World, shewing both that it did begin and must end also . . . Discourse of the Clauses, . . . of things in Nature, etc. 4th and much enlarged edition. Small 4to, original rough calf, somewhat worn, and small piece cut from lower margin of title.

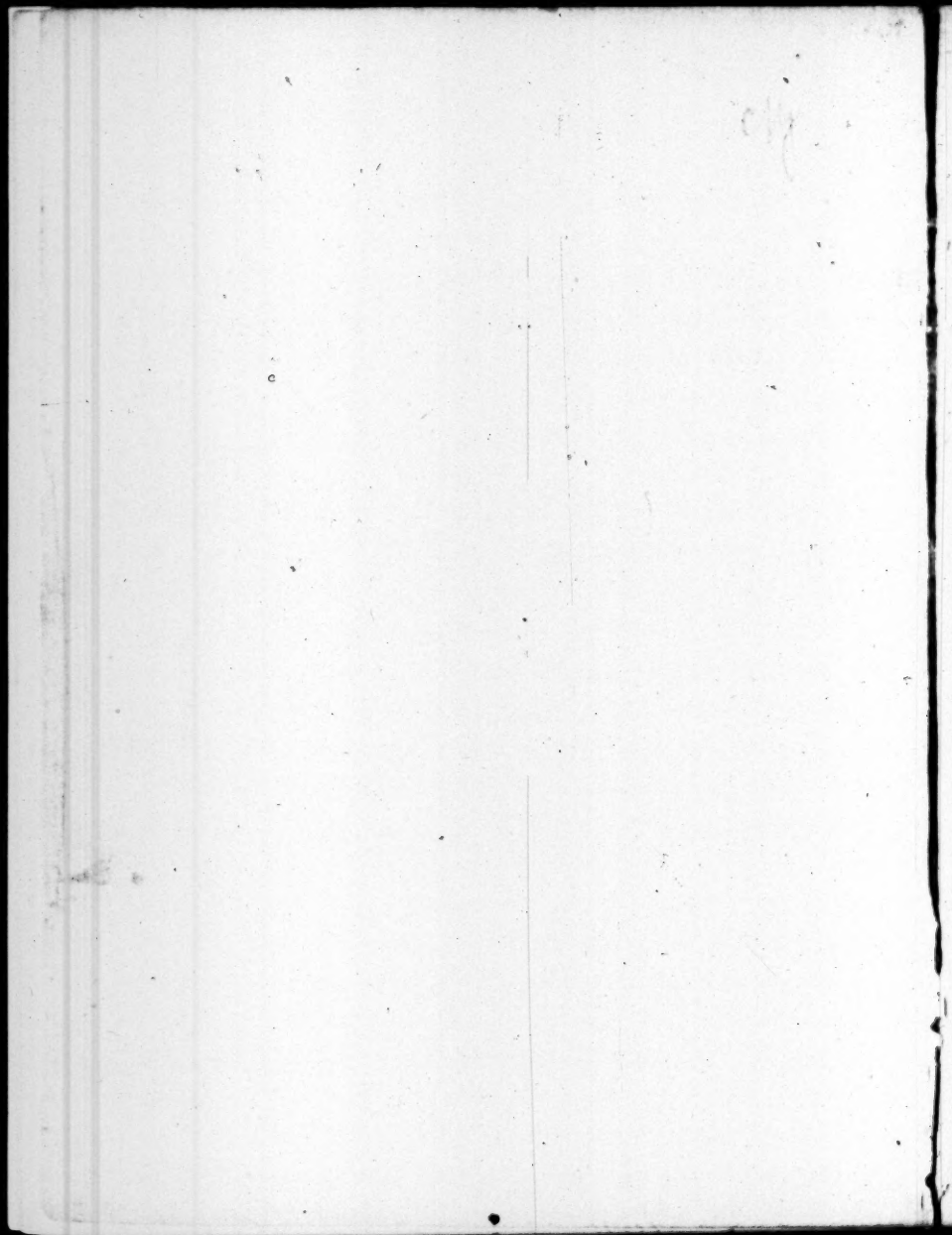
Ms. Cl. 1910 9H. 111 Lond. 1670

* A remarkable and curious work, which treats on valuable herbs good for women, various kinds of tobacco, how angels were created, etc., etc.

Chapter VIII is wholly devoted to FISH AND FOWL, sect. 1 being "Of Fishes, their names, kinds, properties; together with sundry emblems drawn from them," etc., etc.

88 **Curious.**—SPECULUM MUNDI, or a *Glas*
Representing the Face of the World, shewing
both that it did begin and must also end;
the manner how, and time when, being largely
examined, wheunto is joyned an Eexameron,
or a serious discourse of the causes, con-
tinuance, and qualities of things in Nature,
occasioned as matter pertinent to the work
done in the six dayes of the world's creation,
sm. 4to, calf, RARE, £2 10s 1643

A remarkable and curious old book, treats on valuable
herbs good for women, various kinds of tobacco, how
angels were created, astrology, comets, dogs and their
kinds, mist, marriages, women, wind and water, etc.



Speculum Mundi.

OR, A

GLASS

Representing the Face of the

WORLD.

Shewing both that it did begin,
and must also end: The manner How, and Time
When, being largely Examined.

The whole of which, may be fitly called an

HEXAMERON.

OR

Discourse of the Clauses, Con-
tinuance, and Qualities of things in Nature,
occasioned as matter pertinent to the Work done in
the *Six Days* of the Worlds Creation.

The Fourth Edition, much beautified and enlarged,
By JOHN SWAN.

Exod. 20. 11. In Six days the Lord made Heaven and Earth, the Sea, and all that in them
is, and rested the Seventh day.

London, Printed by J. R. for John Williams. 1670.

2
152

HARVARD COLLEGE LIBRARY

GIF OF

DANIEL D. FEARING

30 JUNE 1915



A TABLE of the Contents in the
several Chapters, Sections, Paragraphs, Ar-
ticles, and Questions, vvhich are contained
in this Book.

C H A P. I.

THE first Chapter concerneth the Worlds beginning and
ending; and hath but one Section: viz.
Sect. 1. That the world, began, and must also end.

C H A P. II.

THe second chapter concerneth the time of the year, when
the world began: and is divided into three Sections.
Sect. 1. Of three opinions concerning the time of the worlds
creation; with a confutation of the first.
Sect. 2. Their reasons shewed, who suppose the time to be in
Autumn.
Sect. 3. That the world began in the Spring; with an an-
swer to their reasons who contend for *Autumn*.

C H A P. III.

THe third Chapter concerneth the first day of the world;
and is divided into three Sections.

The Contents.

SECT. 1. *Of God, the Architect of all; and of the first part of the first days work.*

SECT. 2. *Of the Creation of Light.*

SECT. 3. *Of the intercourse between day and night.*

C H A P. IV.

THe fourth and fifth Chapters, concern the Second day, with such things as are pertinent to the work done in it; and are divided into these followings Sections, Paragraphs, and Articles.

SECT. 1. *Of the Expansum, or stretching out of the Heavens, called the Firmament.*

SECT. 2. *Of the Waters above the Heavens.*

SECT. 3. *Of the master of the Heavens, &c.*

C H A P. V.

THe fifth Chapter beginneth with the Second part of the second days work, and hath two Sections.

SECT. 1. *How to understand the word Heavens.*

SECT. 2. *Of the Air, together with such appearances as we use to see there. This Section hath seven Paragraphs.*

Parag. 1. *Of the division and qualities of the Regions in the Air.*

Parag. 2. *Of Meteors: First in general, then how they be divided, in particular.*

Parag. 3. *Of Fiery Meteors, such as are said to be pure, and not mixt. This Paragraph hath thirteen Articles,*

- | | | |
|----|---|------------------------------------|
| 1. | { | Burning Torches. |
| 2. | | Burning Beams. |
| 3. | | Round Pillars. |
| 4. | | Pyramidal Pillars. |
| 5. | { | Burning Spears, Streams, or Darts. |
| 6. | | Dancing or Leaping Goats. |
| 7. | | Flying Sparks. |

8. *Of*

The Contents.

- 8. Shooting Stars.
- 9. Flying Launces.
- 10. Fires in the Air, two kinds.
- 11. { Of Flying Dragons, or Fire-Drakes.
- 12. { Wandering Lights.
- 13. { Licking Lights.

Parag. 4. Concerning Fiery Meteors, impurely mixt.
This Paragraph hath three Articles.

- 1. { Comets, &c.
- 2. { Of New Stars, their matter and significations.
- 3. { Thunder and Lightning.

Parag. 5. Of such Meteors, as are Fiery only in appearance This hath seven Articles.

- 1. { The Galaxia, that it is no Meteor,
- 2. { Colours in the Clouds.
- 3. { Many Suns and Moons.
- 4. { Of Beams, or Streams of Light.
- 5. { Circles or Crowns.
- 6. { The Rainbow.
- 7. { Openings or Chaps in the Skie.

Parag. 6. Of Watery Meteors, and of their several kinds.
This Paragraph hath eight Articles.

- 1. { Clouds, and their matter.
- 2. { Rain.
- 3. { Dew.
- 4. { Of Frosts.
- 5. { Snow.
- 6. { Hail.
- 7. { Mists, and their kinds.
- 8. { The cobweb-like Meteor.

Parag. 7. Of Aery Meteors. This hath five Articles.

- 1. { Divers opinions concerning Wind.
- 2. { Wind, what it is, &c.
- 3. { Of The division of winds, &c.
- 4. { The quality and nature of Winds.
- 5. { Whirl winds, Storm winds, &c.

The Contents.

CHAP. VI.

THe sixth Chapter treateth of the third Day, together with such things as are pertinent to the work done in it. Here be four Sections, and two Appendices.

SECT. 1. Sheweth into how many main parts the business of this day may be distinguished.

SECT. 2. concerning the first thing done; viz. The gathering together of the Waters, which God called Seas.

This Section disposeth seven Questions.

1. How the Waters were gathered together.
2. How they could be gathered but to one place, seeing there be many Seas, Lakes, Rivers and Fountains far asunder.
3. Whether they be higher than the Earth.
4. whether there be more water than Earth.
5. Whether the Earth be founded upon the Waters.
6. The original of Rivers; as also why the Seas be salt, and Rivers fresh.
7. Of the Ebbing and Flowing of the Sea.

Unto which Section, an Appendix is joyned: and it concerns strange properties in certain Wells, Waters and Fountains.

SECT. 3. of the Dry land, appearing after the waters were gathered: wherein the cause of Earth quakes, together with the compass and circuit of the Earth, is shewed.

SECT. 4. of the Sprouting, springing and Fruition of the Earth: wherein the variety and virtues of sundry Herbs and Trees, are largely discovered, according to the best Authors.

Unto which two last Sections, an Appendix is joyned concerning all kind of Metals, as Gold, Silver, Stones of all sort, and such like things as are under ground.

The Contents.

C H A P. VII.

THe seventh Chapter concerneth the fourth day, together with such things as are pertinent to the work done in it; namely the Matter, Names, Natures, Motions, and Offices of the Stars. It hath three Sections.

SECT. 1. An entrance towards the discourse of the Stars and Lights.

SECT. 2. Of the Matter, Place, Motion, and Height of the Stars, &c. This Section hath two Articles.

1. That the Stars consist most of a Fiery matter, and are cherished by the Waters above the Heavens; as was mentioned, Chap. 4.
2. Of their Order and Place in the Skie: and why one is higher than another.

SECT. 3. Of those offices given to the Stars when they were created. This third Section hath three Paragraphs.

Parag. 1. Shewing that their first office is to shine upon the Earth, to rule the Day and Night.

Here we have two Articles.

1. Of Light, what it is: and whether the Sun be the only fountain of Light.
2. Of the Stars twinkling, and Sun dancing.

Parag. 2. Of that other office; viz. that the Stars should be for signes, &c. This Paragraph hath three Articles.

1. That the Stars work upon the inferiour World, and are signes of future events.
2. whether it be not a derogation from the perfection of things created, to grant that the Stars may give an inclination to Man in his actions.
3. Of Predictions, or understanding the Signes.

Parag. 3. Of that other office, wherein the Stars were made (as it were) heavenly clocks. This hath three Articles.

The Contents.

1. } Seasons; as Spring, Summer, &c.
2. } Days, and their kinds, &c.
3. } Years, and their kinds.

CHAP. VIII.

THe eighth Chapter concerneth the Creatures made in the fifth day of the World; viz. Fish, and Fowl.

This Chapter hath two Sections.

SECT. 1. Of Fishes, their names, kinds, properties; together with sundry emblems drawn from them.

SECT. 2. Of the names, kinds, and properties of Fowls; with many and sundry emblems drawn from most of them.

CHAP. IX.

THe ninth Chapter concerneth the Creatures made in the sixth and last day; being such Creatures as live, neither in the Air or Water, but upon the Earth. This Chapter hath likewise two Sections.

SECT. 1. Of Beasts, their properties, names, kinds, &c. together with sundry emblems drawn from many of them.

SECT. 2. The Creation of Man, being created Male and Female, and made according to the Image of God; together with the Institution of Marriage, and blessing given to that estate, as also the time of Adams fall, and of the long lives of the Patriarchs.

To these two are added now five other Sections, treating chiefly of the manner and time of the worlds ending; together with a serious debate of the Kingdom of Christ, in confutation of the Millenaries, Anabaptists, and all else who plead for a Personal Reign of Christ upon Earth.



C H A P. I.

Wherein is shewed, That the World neither was from Eternity, nor yet shall be extended to Eternity; but that it had both a beginning, and shall also have an ending.

S E C T. I.

That the World began, and must also end.

THE Philosophers of ancient times were diversly transported in the stream of their own opinions, both concerning the World's original and continuance: some determining that it once began; others imagining that it was without beginning, and that the circled Orbs should spin out a thread as long as is Eternity, before it found an ending. *Plato* could say, that it was *Dei Patris ad genus humanum Epistola*, an Epistle of God the Father unto Mankind; and that God was *ἀρχηγός, ποιητής, ὑποστάτης* & *θεός*, the Creator, Maker, and Father of the whole Universe. But † *Aristotle* stuck not to affirm, that the World neither began, nor yet shall end. Yet this his opinion, himself being witness, was nothing but a Paradox; and (as without wrong to him may be affirmed) he maintained it rather by way of contradiction to others, than for any desire of truth, calling it *Problema topicum*, as in the first book of his *Topicks*, Chap. 9. is manifest; and as in

Plato in Timæo.

† *Lib. 1. de caelo, cap. 10. 12. & lib. 2. cap. 1. lib. 2. Phys. & lib. de gen. & cor.*

* Lib. demand.

* *Parvus in Gen.*

* *Inania sapientia ad obliuandam veritatem, ingenio magis quam solide excogitata.*

Parvus ibid.

* that book written in his old age to King *Alexander* the Great, he also confesseth. This therefore made * one say, that it was not so much a logical Question, as a *Tacticus*, or Position which *Aristotle* held and maintained; whose Reasons some have called * *vain sophistications to obscure the truth, having more wit than matter in them*: and may again be answered with more solid Arguments than he alledgeth. For, that the World had both a beginning, and must also have an ending, even Reason it self, although there were no Scripture for it, is sufficient.

As first, If the World were eternal, then there would be some memory given us of the generations of men more ancient than that which *Moses* mentioneth: but there is none given us; for all other Histories are but late in respect of the sacred Story: which is an evident Argument, not only against the eternity of the World, but also against the Fables of the Egyptians, Scythians, and Grecians, concerning their ancientness, and the ancientness of their acts and deeds of fame.

For indeed (omitting their palpable fictions) when Ethnick Writers tell us of any ancient thing, it is either concerning the Theban or Trojan war; of *Cecrops*, of *Inachus*, of *Ogyges*, *Deucalion*, or *Janus*; of *Ninus*, or his Father *Belus*; or the war of the Giants, striving to heap mountain upon mountain, that they might pull the gods out of heaven. Now all these were either about the daies of the Judges, *Moses*, *Abraham*, or *Noah*, at the furthest. For, to whom did they allude by their *Janus* with two faces, butto *Noah*, who saw the times both before and after the flood? Or, whom did they point at by their *Gigantomachia*, when *Pelion* (forsooth) must be set upon *Ossa's* back, and all thrown down with a thunder-crack? Whom (I say) did they point at, but *Nimrod* and his company, or those who built the Tower of *Babel*, and had their languages confounded for it?

That of the Poet is therefore pertinent.

— *Si nulla fuit genitalis origo
Terrarum & cæli, semperque æterna fuerit:
Cur supra bellum Thebanum & funera Troje
Non alias alii quoque res cecidere Poeta?
Quo tot facta virum toties cecidere? nec usquam
Æternis fama monumentis insita florent?*

If that the Heavens and Earth did not begin,
Had no creation, but remain'd from aye,
Why did not other Poets something sing
Before the Theban war, or fall of Troy?
What are become of Great mens many deeds?
They could not die,

But would remain unto posteritie.

Secondly, thus it may be also proved; All things which are to us conspicuous, consisting of matter and form, are of themselves frail and fading, having such a nature that they either are or may be subject to corruption; but such is the World: and therefore as in respect of its essence it is finite; so likewise in respect of time it cannot be infinite, but have both a beginning and an ending. For first, that is properly eternal, which is altogether incommunicable, or which is without beginning, mutation, succession, and end: and such only is God, and not the World. Secondly, it cannot be denied, but that there is the same reason of the whole which is of the parts; so that if the parts of the world be subject to corruption, then must likewise the whole World also; but the parts are (as we daily see) and therefore the whole.

But leaving Reason, we have a Rule beyond it, which is the Rule of Faith; whose first assertion makes it plain, that the World began: and that Time (by which we measure daies, weeks, months, and years) hath not been for ever. For, *In the beginning* (saith Moses) *God created the Heavens and the Earth:* and why is it said, *In the beginning he created*; but that it might be known (especially to his Church) that the World was from everlasting?

211112

B 2

Divinely

CHAP. lib. 6

Gen. I. 1.

*Du Barlas in
the first Day
of the 1. week*

Divinely therefore did *Du Barlas* sing, as in the sound
of *Silvester* we have it,

Clear fire for ever hath not air embrace't,
Nor air for aye environ'd waters vast,
Nor waters alwaies wrapt the earth therein;
But all this *All* did once of nought begin.
Th' immutable divine Decree, which shall
Cause the world's end, caus'd its original.

Which whosoever shall deny, he doth but betray his mi-
sery; either because he wants Gods holy Word to be
his Rule, or else because he disdaineth to be ruled by it.

How great a privilege then is that which even the
poorest Christian hath above the greatest and most wise
Philosopher! And as for the scoffing Atheist, whose pic-
kish and perverse opinion leads him up and down in an af-
fected cloud of ignorance, disdaining to have Faith, be-
cause he scoffeth at the Rule of Faith; it is no more than
thus with him, he kicks against the pricks, and cannot
therefore scape away unhurt. For, *Sequitur injustos ultor
a tergo Deus*; God as a revenger, follows at the heels of
a sinner,

Which many thousands now can witness well,
Whose faults with wo recanted are in Hell.

C H A P. II.

*Shewing in what part of the year the World
was created.*

IN the account of Times it is very necessary that
there should be a proposed point, or mark
from whence every reckoning may take begin-
ning; that thereby the years, which have several
times of beginning, may the more truly be computed and
compared among themselves. Wherefore (it cannot be
amiss

arise to set down something concerning the time of the year wherein the World began; especially seeing among Chronologers it is usual to refer their accounts either to the current year of the worlds Creation, or of our Saviours birth. And now, concerning this, there be chiefly three opinions.

S E C T. I.

For first, *Mercator* and some others maintain, that the World was created in the very time of the Summer Solstice, and that in the beginning of Time, the Sun entering *Leo*, gave beginning to the year.

This (as is thought) was first hatch'd among the Priests of *Egypt*, who observing the River *Nilus* to overflow about the Summer Solstice, adored it for a God, esteeming the time of its inundation for an infallible beginning of divine actions in things created; and thereupon for the beginning likewise of the year at the time of the Worlds creation.

But if this were the only cause, we may not unfully say, that it was folly and superstition which first fed this opinion abroad, and therefore he is worthy of blame who will go about to maintain it. And although *Mercator* in his Chronology seems to alledge some other reasons, thereby to uphold his share in it, yet his chief reason is not sufficient; for it is grounded upon that which is not granted, *viz.* that the flood should end about *July*, the cause in the eleventh month (which he supposeth to be *May* or *June*, when the Olive beginneth to put forth) the Dove brought green Olive leaves upon *Noah* in the Ark.

To which it is answered, that the Word in *Gen.* *γένεσις* which he hath to signify green leaves, may (as *Expositors* witness) as well be taken for branches, even such as have been used to make Bowers with which (according to the translation of the Septuagint) is expressed by a word signifying a drie stalk. And so saith a *Dr.* *Will.*

in.

in his *Hexapla* upon *Genesis*: Chap. 1. Quest. 17. that the word in the Original is *Galce*, which (as *S. Hieron* translateth it elsewhere) signifies the branches of Olives, and in the Septuagint it is *αἱ ῥαβδοὶ* a stalk without leaves.

That therefore which the Dove brought, might be some branch of the Olive tree rather than the leaves, and so might the flood end at the dead time of the year, rather than when things are fresh and flourishing.

But admit that the stalk or branch had leaves on it, yet it proves not that it was about *May* or *June* when the Dove found and brought it; because it is * recorded of the Olive, that she loleth not her leaves as other trees do, but is green and flourishing all the year. Such leaves therefore as it had before the flood, it might have after the flood; for if they were new ones, they must needs spring out in seven daies, because the Dove was sent out but seven daies before, returning then as a creature disconsolate, not finding any thing at all.

* *Plin. lib. 16.*
cap. 20.

S E C T. II.

ANother opinion is, that it was created in Autumn, and that the Sun (who is the Index of time; by whose revolution we account our years) began his course in *Libra*, about the 26. day of *October*, if the reckoning be reduced to our *Julian* year which is now in use.

Unto which opinion I gave my assent, when I first wrote of these things, and had for it (as I then thought) many strong and forcible reasons; which I did illustrate and lay open at large, building much upon the testimony of *Josephus*, whom *Calvisius* and others strengthen, from the words of the *Chaldee Paraphrast* upon the first book of the *Kings*, Chap. 8. v. 2: But was most of all drawn to be of their side, by joyning with them in their understanding of those texts of *Moses* in *Exodus*, Chap. 23. v. 16. and Chap. 23. v. 21. where first the *Israelites* are commanded to observe the feast of ingathering

in the end of the year, when they had gathered in their labours out of the field; that is, the feast of Tabernacles in the seventh month: And secondly are taught, that this Feast was in *revolutions anni, five revolvendo anno*, in the revolution of the year, or when the year is wheeled about. By which a man would think, that the year both ended and began again about the feast of Tabernacles: and that though the first month of the year mentioned, and so commanded to be called in *Exod. 12.* at the coming out of Egypt, was reckoned from the Spring; yet the year naturally did nevertheless begin from Autumn, in the seventh month from that first.

S E C T. II.

Howbeit upon more mature deliberation, I think them to be in the right, who reckon from the Spring, and do therefore fairly lay down my former tenet. For, first, that month which began from thence, is (in the 12. Chapter of *Exodus*) expressly called the *first month of the year*, as cannot be denied: The first month; not as then appointed, but confirmed, for any thing that the Text affirmeth to the contrary; for, seeing the original doth not say directly, let it be the first month; it is every where as right to understand the Verb of the Indicative, as of the Imperative mood, and of the present as well as of the future tense. Whereupon it will also follow, that *Moses* (by Gods appointment) ordaining this month to be the first month of the year, doth make no new institution, but reneweth the old account of the *Patriarchs*, which was discontinued in Egypt, by reason that the *Egyptians* indeed began their account from their month *Pitho*, in Autumn, when *Nilus* returned again into his River, as well as from that time that *Mercator* taketh up, when it first began to overflow: And indeed this words *you* calls them back from the custom of Egypt. For, that manner of reckoning which they had seen there, was none of theirs: and therefore they being come from

from thence, must know, that it belongs to them to reckon thus; for, *to you this is the beginning of months*, Exod. 12. 2.

Josephus therefore had small cause to say, that *Moses* altered the old ancient order of the year; especially, seeing he himself doth likewise (in a manner) affirm, how that the Hebrews reckoning from Autumn, do but as the Egyptians did: Besides, *Josephus* having an eye to the beginning of the years of *Jubilee*, which began from the seventh month after that month which *Moses* told them was the first month of the year, was the readier to think (as the modern Jews since his time have also done) that in regard of Ecclesiastical affairs the beginning of the year was altered at the coming out of Egypt; but the old ancient beginning stood still and was regarded in their affairs of civil nature: whereupon he saith that *Moses* did innovate nothing from the ancient rite concerning the disposing of the year for buyings and sellings. In which words (me thinks) he doth a little stumble both himself and such as stick to his testimony, in regard that the Nundinations and things of that nature appertained to the Jubilee, which was not instituted until afterwards. I finde therefore little in *Josephus* concerning this to build upon.

The *Chaldee Paraphrast* also is in this the same in effect with *Josephus*, and is so much the more invalid, by how much the reckoning of the *Chaldeans* and *Persians* is against it: both of which Nations accounted from the Spring, and might first learn it from the Patriarchs, *Terrah* and *Abraham*, who we are sure lived for a great while together in Ur of the *Chaldees*, and taught them (at least *Abraham* did) the knowledge of the Stars, for so *Berosus* mentions: and successively ever since Astrologers have accounted the revolution of the World from the Suns entrance into *Aries*; where (in token of the beginning of the year) the *Persians* set their God *Mithras* holding in his hand a naked sword.

Saint

Saint *Ambrose* saith, to shew that it was Spring when the World was made, the Scripture speaking thus, *Hic vobis initium mensium*; this is to you the beginning of months. Nor do other of the Fathers (*Ensebius, Basil, Athanasius, Cyril of Jerusalem, Augustine, Gregorie Nazianzene, Damascene, Beda, Isidore,*) besides late writers (*Luther, Johannes Lucidus, Bunting, Lideat, Polanus, Perkins, Willel, Alstedius* and others) but affirm as much. *Beda* makes mention of a Synod holden in *Palestine* by *Theophilus* Bishop of *Cesarea*, in which was agreed that the World was made in the Spring: *ᾠρᾱ*, and among the *Jews, Rabbi Joshua* doth earnestly defend the same Tenet against another great *Rabbi*, who would that it should be made in Autumn.

And further, whereas God blessed the creatures, and bid them increase and multiply, which blessing presently took effect, who knoweth not that for most kinds of creatures, especially the fish and fowl, the fittest time to engender and encrease is the Spring?

The time of the creation is also found from the History of the Flood, which began on the seventeenth day of the second month of the year; which second month agrees not to Autumn, but to the Spring: For first, by comparing the order of Months here specified, with that order which God gave *Moses* command to put in practice, it will well appear that the first month was reckoned from the Spring; because it cannot be shewed in any place of Scripture, when the months are reckoned in their orders, (as the first, second, third, fourth, fifth, &c.) that they take beginning from any other time. So that as *Moses* accounted the first, second, third, fourth, fifth, &c. from *Nisan* which began in the Spring, in like manner did *Noah* reckon from the same time. And whereas I heretofore thought that this order of the months could prove nothing, because not above four of the months were known to have names till after the Captivity; and must therefore either not be reckoned at all, or else be

1 Mac. 4. 51.
and chap. 9.
14.

reckoned in order according to their number, from whence soever the reckoning begun: I find it since to be no perfect answer; For, even those four are mentioned as well by the order of their number, as by their name, even before the Captivity, when they had names to be called by; 1 Kings chap. 6. and chap. 8. Nor was it but so likewise, afterwards, both with them and some of the rest, as in *Josaphat*, and the books of *Maccabees* may be seen.

And then secondly, if it had been Autumn when the Flood began, the Flood continuing much about a just and even year, it must needs end at such a time as a man would think should be neither fit for the creature to encrease and multiply, nor the earth (in those Northern parts of the world where the Ark rested) to be dried up; no, nor for the grass and herbs to grow for food, the winter coming on so soon. Saint *Ambrose* therefore is so fully resolved concerning this, that *it is not to be doubted* (saith he) *but that this second month was in the spring time when things encrease and grow, the fias bring forth, &c. and that God then sent the flood upon the wicked, when their grief should be the greater, to be punished in their abundance.* Which saying of that holy Father seems to be warranted from the words of our Saviour, *Matth. 24. 37.* For it is true, according to Christs own Testimony recorded there, that they of the old world were taken even in the midst of all their mirth,

And as for the forsaide Texts alledged out of *Exodus*, they may (as some think) be answered thus, viz. that the year as well as the month is naturally divided into two chiefe parts: The one whereof is of the year beginning or coming in; the other of the year ending or going out: For, by this the year seems to be compared to a Ring, which by a diameter is divided into two semicircles, insomuch that when one half is ended by the course of the Sun from one point of the diameter to the other; the other part must needs be taken for the conversion

version, or return, untill the Sun be come again to the first point, where, as one year endeth, the other beginneth, Now then the seventh moneth is truly called the conversion, or return; because the first half is then at an end, and the year entred upon his revolution or return, and so the feast of the Tabernacles (kept alwaies in that month) was in *crism anni*, in the going out of the year.

Which answer to that Text I do in some sort approve, and could be willing to think it might fully satisfie, if the year consisted of no more than two parts: But because the year is divided into four quarters or *Tekupha's*, called (as I shall shew you afterward) *the returns of the year*, I think it a more perfect answer to say; It is called *the end and return of the year*, not because it met then with the natural head thereof, but because all the fruit of the year was gathered in, and seed-time began anew: And so it is with us, the Autumn is counted the beginning of the year for matters of husbandry; and yet we in the computation of our years begin in the Spring at the Annuntiation. The year of Jubilee indeed began now, I mean at Autumn: but for all that, the month wherein it began, is not called the first month, but the seventh, *Levis. 25. 10.*

And furthermore, whereas it is usually objected, that the trees were created with ripe fruits on them, and that the world was therefore made in Autumn: it is answered; that in the Eastern parts of the World, some fruits are ripe in the Spring as well as in Autumn, as is seen by the Harvest of the Jews, which was never long after Easter. And without question Paradise had the preheminence to be the best place that the world afforded, and might therefore have ripe fruits sooner than the Jews had their yearly Harvest. To which may be added, that the *Arabians*, *Syrians*, or *Affyrians* and *Chaldeans* do not begin their year from Autumn, but from the Spring, as *Simplicius* witnesseth upon the fifth book of *Aristotles Physicks*.

But they have further to object, that the Law is divided into several Sections, which were all of them read over once every year, the first whereof by an old ancient custom began alwaies from Autumn: which was to shew that there was the right beginning of the year.

Obj^a.

But to this learned *Langius* hath fully answered; saying that neither was it ever defined of *Moses*, or of *Joshua*, nor of any of the Judges, how much of the Law should be read on the Sabbath, nor from what time of the year the reading of the Law should begin again. It was indeed commanded of *Moses* that the People of *Israel* should have the words and book of the Law alwaies before their eyes: but of that publique reading it in the Synagogues, according to several Sections and Divisions, he spake not a word. King *Jehosaphat* is found to be the first who sent forth his Princes, to whom he joynd Levites in Commission, who going through all the Cities of *Judah*, taught the people in the Law of God: for they alwaies had the Book of the Law about them, 2 *Chro.* 17. 7, 8, &c. From whence is manifest, that in those times there were no ordinary Prælections or Lectures thereof. But after the Captivity, more like it is, that *Esdra*s (that expert Scribe) divided the Law into parts, and instituted that order of reading them which is still observed: and because when he began to read, it was the first day of the seventh month, as may be seen, *Neh.* 8. 2. therefore ever after, the reading began from thence: and yet then to speak truly, it is hard to say what precise proportion *Ezra* observed for one reading, seeing (as the third verse sheweth) he read therein from morning until mid-day; and might therefore, rather afterwards than now, proportion the whole into several parts, if at all it were done by him.

I conclude therefore, that (notwithstanding the strongest and best objections to the contrary) the world began at the Spring time of the year, and that on the fourth day

day of the first Week the Sun was in the fourth degree of *Aries*: which fourth day, according to the *Julian* year, was on the seven and twentieth day of *April*; on which day the Sun was created, and set in the Firmament of Heaven, as shall be further shewed afterwards in the seventh Chapter.

*Omnia cum vireant, tunc est nova temporis aetas:
Sic annus per ver incipiendus erit.*

CHAP. III.

*Containing a discourse of such things as are pertinent
to the first dayes work.*

Sect. 1.

*Of God the Architect of all, and of the first part of the
first dayes work.*

Time, by whose revolutions we measure hours, dayes, weeks, months and years, is nothing else but (as it were) a certain space borrowed or set apart from *eternity*; which shall at the last return to eternity again: like the rivers, which have their first course from seas; and by running on, there they arrive, and have their last: for before * *Time* began, there was *Eternity*, namely *GOD*; which was, which is, and which shall be for ever: without beginning or end, and yet the beginning and end of all things,

* Deus dum celum exornaret, fecit aeternitatem quandam in numero fluentem imaginem, quam nos Tempus vocamus, Galen. ex Plat.

Exod. 3. 14.

* Hoc nomine se
cognoscendum
proponit ab æ
terna essentia
sua. quæ ab om-
nibus quæ sunt
in cælo, terra,
& infra ter-
ram, discerni-
tur. Iunianus
nos, in Exod.

* When we
behold the ad-
mired fabrick
of the world,
&c. we can no
more ascribe
it to chance,
than a Printers
case of letters
could by
chance fall in-
to the right
composition
of any such
book as he
printeth.

* Psal. 2. 7.

John 15. 16.

* Du-Bart. 1.
day of the 1.
week.

* Coloss. 1. 16.

things. *Aternitas enim, Dei solummodo natura substan-
tialiter inest*; saith one: that is, *Eternity is substantially
only in the nature of God.* When *Moses* therefore would
have known Gods name, he tells him, *Thus shalt thou say
unto the children of Israel, * I AM hath sent me unto you:*
By which name, saith Junius, *he would have himself known
according to his eternal essence, whereby he is discerned from
all other things which are either in heaven, on the earth, or
elsewhere.* Which in another place is thus illustrated;
Ego sum Primus & Ultimus, & præter me non est Deus;
I am the First and the Last, and beside me there is no God,
Esay 44. 6. Or thus, *Before the day was, I am he;* and
there is none that can deliver out of my hand, *Esay 43. 13.*
To which that of the Psalmist doth well agree, *Before
the mountains were brought forth, or ever the earth and
the world were made, thou art God from everlasting,* *Psal.*
90. 2.

Thus we see, that before ever any thing was, God on-
ly was, who * gave both a beginning and a being unto
every thing that is: and he, in respect of his divine es-
sence, is but one. Yet so, as in that single essence of his
there be three divine substances, or persons all truly sub-
sisting; whereof every one is distinct from other, and yet
each hath the whole Godhead in it self: and these are, the
Father, Son, and Holy Ghost, 1. John 5. 7.

1. The Father is a person who from all eternity hath be-
gotten the Son.

2. The Son is a person from all eternity begotten of the
Father.

3. The holy Ghost is a person eternally proceeding
from the Father and the Son, * as the holy Scriptures
witness.

* These thus distinct in person, not divinity.

All three in one makes one eternal Trinity.

From which eternal and undivided Trinity, the whole
world, consisting of things visible and * invisible, took
beginning, as the original words, *Elohim* and *Bara*, do
well

well expresse, For, *Elohim* being a word plural doth signifie *Diu*, Gods: but being joyned with a word singular, namely *Bara*, which is *Created*, they then together shew that there are three persons in the Deity, and that the three persons are but one God, who did create. Or thus; * I holt two words, being the one of the singular, the other of the plural number, do note unto us the singularity of the Godhead, and plurality of the persons. And not only so, but they also shew that the three persons being but one God, did * all of them create: For such is found to be the propriety of the Hebrew phrase, *Elohim Bara*, * *Creavit Diu*, *The Gods created*.

1. Of the Father it is witnessed, that he created as the fountain of goodness. For, saith S. James. *Every good and perfect gift is from above, and cometh down from the Father of lights*, Jam. 1. 17. *Of whom and through whom*, saith S. Paul. *are all things*, Rom. 11. 36.

2. Of the Son it is witnessed, that he created as the wisdom of the Father. For, *when he created the heavens*, saith Wisdom, *I was there*, Prov. 8. 27. And again, *By him were all things created that are*, Coloss. 1. 14, 15. namely, by him who did bear the image of the Father, and was the Redeemer of the world.

3. And lastly, of the holy Ghost it is witnessed, that he created as the power of the Father and the Son. For *by his Spirit he garnished the heavens; and by his hand he hath formed the crooked serpent*, Job 26. 13. and chap. 33. 4. Or, as the Psalmist hath it, *By the word of the Lord were the heavens made, and all the hosts of them [spiritus oris] by the spirit of his mouth*, Psal. 33. 6.

All which considered, and found to be done in the beginning, must needs be then when there was no preexistent matter to work upon. For (*as it is witnessed) the Hebrew word *Reshith*, which is Englished *the beginning*, doth not signifie any substance; neither doth the other word *Bara*, to create, signifie any way to create but of nothing: and thereby it is distinguished from the word

* Dr. Willet
on Gen. p. 20.

* Gib. on Gen.
Quest. 1.

* Freig. Histor.
Mosaic. pag. 3.

* Gib. on Gen.
Quest. 1.

Paizar, to form, and *Gnasba*, to make. And therefore though now we behold a glorious something wherein appears in every part more than much matter of wonder; yet at the first, saith noble *Bartas*.

Nothing but nothing had the Lord Almighty;
Whercof, wherewith, wherby to build this City.

That Axiom therefore in philosophy, *Ex nihilo nihil fit*, must needs stand aloof off when we speak of creation. For, although it be * true that according to the course of nature and ordinary custom of things, nothing can be made, unless out of some former matter: yet when we descend *ad inquirendam primarum rerum conditionem*, to enquire after the first condition of the first things, then we shall find that God is above Nature, because he is the Lord of Nature. And he, whose sufficiency and efficiency is altogether absolute, must needs be able *supernaturali quadam ratione*, by a certain supernatural means, to produce all things out of nothing.

Of which nothing, that I may say something, my best and only way is to look at *Moses*, and (as near as I can) explain his meaning.

In the beginning (saith he) *God created the heavens and the earth*. In which words he laboureth not so much to deliver a general proposition of the works of creation, or of the two distinct parts of the world, or of the matter of heaven and earth, as if the one word did insinuate all the superior parts of the world, the other all the inferior parts beside: or as if taking both together, he meant by them joyntly *totius mundi semen*, the seed of the whole world, mentioning it under these two words of *Heaven and Earth*, as a *Chaos*. This he meaneth not; because that which concerns the *Chaos* is mentioned afterwards in the second verse. And what were it but a plain tautologie, to say that in the beginning God created a *Chaos*, and that *Chaos* was a *Chaos*? Wherefore in those first words he intended nothing more, than to shew that the world which now is called, according to its parts,

* *Est ex nihilo nihil fit per motum seu transmutationem, id est, generatur. sicut ex nihilo aliquid fit per simplicem emanationem id est, creatur, Gocl. disp. Phys.*

parts, Heaven and Earth, was not for everlasting, but took beginning: and so without controversie the right reading of his words doth also witness. For in their original (as it is witnessed by Expositors) thus they sound, *In the beginning God created these heavens and this earth:* as if it should be said, These very heavens and this very earth, which now we see in being, were not alwaies, but began. Then afterwards he proceedeth to shew how, and in what time God created them: speaking first how all was like a disordered and deformed *Chao*; the earth and the heavens not distinguished, but lying as it were in a confused heap all together. And this is manifest. For on the second day, when the heavens were made, it seemeth that their matter was from amongst that mass or unfashioned lump which was said to be void and without form, and not able to be kept together, had not the Spirit of God cherished it, (for the Spirit of God moving upon the waters, did as it were sit upon it and nourish it, as a fowl doth her egges, with heat and life;) yea their matter, I say, was from among the waters, which by the power of Gods word were extended and stretched like a canopy round about the earth, as now we see them. In which regard *S. Austines* words are also pertinent, saying concerning this. All of which we now speak, * *Materies adhuc erat corporearum rerum informis, sine ordine, sine luce;* It was yet an informed matter of corporal things, without order, without light. Or, as that

* Nightingale of France hath sung it,

This was nortthen the world; 't was but the matter,
The nursery whence it should issue after;
Or rather th' Embryon that within a week
Was to be born: for that huge lump was like
The shapeless burden in the mothers womb,
Which doth in time into good fashion come.

Thus and in this manner I cannot but think of these things, nor doubting that *Moses* in his description of the sensible world meaneth otherwise; but sheweth that

D

that

* Confess. lib.
12. cap. 12.

* Du Bart. first
day of the first
week.

* Mr. Purch in
his first part,
lib. 1. cap. 2.

that heaven and earth, which now we see, were in the beginning or first degree of being, an earth, or as an earth, or one lump, without form, and void: a darkened depth and waters; a matter of no matter, and a form without form, as one speaketh; a rude and indigested Chaos or confusion of matters; rather to be believed than comprehended of us. And this, saith * he, is the second natural beginning. For, after the expressing of the matter, followeth that which Philosophers call a second natural principle, Privation, the want of that form of which this matter was capable; which is accidentally a natural principle, required in regard of generation, not of constitution, here described by that part next us, earth, which was without form, as is said, and void. This was the internal constitution. The external was darkness upon the face of the deep. which deep compriseth both the earth before mentioned, and the visible heavens also, called a depth, as to our capacity infinite, and pliant to the Almighty hand of the Creator; called also waters, not because it was perfect waters, which was yet confused; but because of a certain resemblance, not only in the uniformity thereof, but also of that want of stability whereby it could not abide together; but as the spirit of God moved upon these waters to sustain them, &c. Here therefore is the third beginning or principle in Nature, that from which the said * Spirit by that action framed it unto.

* Not the air
or wind; they
were not yet.
* Gibbins in
Gen. quest. 2.
annot d.

The Hebrews * call the whole mass, as it is comprehended under the names of Heaven and Earth, *Tobn Vabohn*, *Tobn*, without order; *bahn*, without variety. But it was not long that it continued in this imperfect state: for one week it was (as I may say) both begotten and born, and brought from a confused Chaos, to a well-ordered and variously adorned Universe. Or, as one saith,

Materiae Deus ipse creat, comitque creatam.

Whose meaning may be taken thus,

The matter first God out of nothing drew,

And then adds beauty to that matter new.

Which

Which was, not because he was unable to make all the world perfect in an instant; but because he would not. Whereupon an holy * Father said, *Voluntas Dei est causa coeli & terra; & ideo major est voluntas Dei quam coelum & terra: The will of God is the cause of heaven and earth, and therefore it is greater than either of them.*

* August.

God therefore doth not disable his omnipotence in not working all at once, but sheweth that he worketh all things * according to the counsel of his will; which in this work of creation (prosecuted both by an order of time and degrees) is so far from eclipsing his power, that it rather doth demonstrate both his power and wisdom to be infinite: and that *he hath so done his marvellous works, that they ought alwayes to be had in remembrance, Psal. lxxviii. 4.* For in wisdom he hath made them all: And why not all at once, was because the counsel of his will was otherwise.

* Ephes. i. 11.

But may we not yet enquire a further reason why it pleased the Almighty thus to will such a space, and would not rather produce this All perfect at once?

Quaest.

This perhaps may be thought a question too curious to be determined, because Gods will is sufficient reason in all his actions; and therefore it is better left than looked into. Which surely might well be so, if the reasons urged prove too eagle-eyed and unprofitable, not bettering us in our dulness or want of knowledge. But otherwise, if they instruct man in any thing pertinent to his present condition, and inform him so as he may be somewhat reformed by them: then they may be urged without a brand of niceness or imputation of curiosity.

Answer. this *
is a question

First therefore we may joyn with them, who say that perhaps it pleased Gods infinite perfection to take this leisure; because if the creatures had been made all at once, they might be thought to be increate, and not made at all; nor yet to have the like sense of their infirmity as now they have, one seeing another made before them.

see last

Secondly, seeing the world was thus perfected by degrees before man was, who (being made) was the chief inhabitant of it: methinks so orderly to raise such a sumptuous Palace for mankind, whilst yet mankind was not, what was it, but the declaration of a greater kindness, and a demonstration proving how kind, how careful, and how gracious God would be to us ever after being made? and therefore now we must not distrust him, but *in all our wayes acknowledge him, and he shall direct our paths*, Prov. 3. 5, 6. For so he hath promised, and so he doth perform to all that love and fear him; causing every thing to work together for their good; nay, for their best, as the Apostle speaketh. Or, as the Psalmist hath it, *No good thing shall he withhold from them who love a godly life*, Psal. 84. 12.

Thirdly, by this example mankind may read a lecture against himself, if heedlessly or hastily he behave himself in any work, and shall not rather proceed soberly and by degrees, making hast (as it is said) by leisure. For true it is, that with us a soft pace goes far: Which made one * fix this contemplation upon the works of creation, saying, *How should we deliberate in our actions which are so subject to imperfection; seeing is pleased Gods infinite perfection (not out of need) to take leisure!* Upon thought of which, let us

Make sober speed: for 'tis observ'd by proof,
That what is well done is done soon enough.

Festina lente: Nam sat cito, si sat bene.

Thus having (as it were) considered the first part of the first dayes work, may we now come more nearly to that which is the beauty of it, I mean the Light, which some call Gods eldest daughter, or the first distinguished creature, wherewith the Lord * decked the world as with a garment.

* Bish. Hall:
consomp. lib. 1.

* Psal. 104. 2.

Seet.

S E C T. 2.

The creation of the light.

AND now concerning this bright creature, no sooner did God say, Let it be, but lo it was. He * commanded that it should shine out of darkness, as speaks the Apostle; and that being separated and set a-part from * the darkness, the first of daies might be, and Gods good works appear, beginning with the Lights proceeding to shew forth his exceeding glory.

BUT of this resplendent creature (without which the beauty of the rest could not be seen) there are no few opinions.

1. Some would have it a spiritual Light: and so under it they comprehend the creation of Angels. But surely in my judgment their opinion is the sounder who make it a natural and material Light only, such as now is in the Sun, the Index of time, and the worlds bright eye. For as the office of the Suns light is now to distinguish between the Day and the Night; so as the office of this Light being commanded to shine out of * darkness before the Sun was made: which being made, was the subject ever after to retain it. If it were otherwise, or any other light, where is it now: shall we say that it is either extinguished or applied to some other use? surely I think not; because God (who made all by the power of his word) needed no instrument or help in the work of his creation: And therefore that Light which at the first made his work appear, is no spiritual Light; but such and the same that now is in the Sun. And yet perhaps, as * *Aquinas* thinketh, it was but *lumen informe*, quod *quarto die formatum est*; *An* informed light, which on the fourth day had its perfect form.

And as for the creation of Angels, it is not like that they were made this first day but on the fourth day: For it is very probable that there was the like order observed in

* 2. Cor 4.6.

* *Ex tenebris
discessit aduulg
lucem; non ut
ex materia (exi-
bit enim gene-
ra sua sustinens
nisi negationem
cuius) sed ut e con-
trariis terminis
Para. in Gen.
pag. 146.*

* Which was the local, but not material original of it, as saith *Paraus, ibid.*

* *Aquin. Sum.
1. 1. par 2. quest.
70. artic. 1.*

Of Angels, and when they were created.

in

* See Dr. Wil-
les on Gen.
chap. 1. Quest.
13.

in making of the invisible world, which was in the visible; and that on the second day, not only the visible, but also the invisible heavens were created; yet so as both of them remained as it were unpolished or unfinished until the fourth day: For then as the outward heavens were garnished with Stars, so might the inward and highest heavens be beautified with Angels. This methinks is not obscurely pointed at in *Job*, chap. 38. vers. 7. *where wert thou*, saith the Lord to *Job*, *when the stars praised me* (or *sang together*) *and all the sons of God, shouted for joy?* it being here * evident that when the Stars were made, the Angels also had then their being, and rejoyced before God; which was but upon the fourth day of the creation. All this, I say, might well be thus, although *Moses* doth not directly mention it, which was because he applied himself to the simple capacity of the people, describing the creation only of sensible things, being that which at the first he intended, and did in plain terms testify in the beginning of his History, when he said, *These Heavens, and this Earth*: of which I spoke before.

And further, were the creation of Angels comprehended under the creation of the heavens and light, what were this but to leave the literal sense (which is to be followed in the History of the creation) and to cleave unto Allegories?

But secondly, concerning this Light, others think that the element of fire was signified by it, whose effect is light, and whose act and quality is to enlighten: which made one therefore say, that *The uncreated Light* (viz. God) commanded this elementary light to be, that so the thinner and lighter element severed from the air, might by his enlightning operation effect a lightsome shining, ---and the air, according to the nature thereof, receive it: which to the fire was an essential property, ---to the air, an accidental quality, approved of God, as good both to himself and the future creatures. Thus some. But others ex-

cept

cept against it, affirming that this light was moveable, by the-presence of it making day, and by its absence making night: which could not have been, had it been the element of fire; unless it be more or less in one place than in another, and not equally dispersed. Or, as *Paras* answereth, it could not be the element of fire, because that is above the clouds (according to the common rules of Philosophy) and therefore in his judgement the fiery element was not until the second day, being created with the *Expansum*, or stretching out of the air.

But unto these exceptions I think an answer may be framed, as I perhaps shall afterwards shew you.

Thirdly, if (as some have done) we should think that this was the very light of the Sun; and then in the Sun, or in such a cloud or subject as was the matter of the Sun, the text would be objected against it; which affirmeth that the Sun was not until the fourth day: for the creation of that was but then, although the light was before.

Fourthly, *Aquinas* saith, * *Lux primo die fuit producta secundum communem lucis naturam: quarto autem die attributa est luminaribus determinata virtus ad determinatos effectus: secundum quod videmus alios effectus habere radium solis, & alios radium lune, & sic de aliis.* Whereupon he concludeth, that howsoever it was, it was but an informed light until the fourth day.

Now therefore, amongst a multitude of opinions which are besides these already mentioned, I (for mine own part) cannot but prefer this as the best; namely, that the light for three dayes space wanted a subject; such as now it hath: and yet it did perform the same office which now it doth being fastened to a subject, or to the body of the Sun, which is *Vehiculum lucis*, *A Chariot for the light*. For we may easily perceive that in the works of creation there is such an * harmonious order observed, as that there may be an union and reduction of all things of one kind to their own heads and centre.

* *Aquin. Sum.*
part. 1. quest.
70. art. 1.

* God made
one proper
centre for all
things of one
kind, unto
which he re-
duceth them.

As

As for example, the upper waters must be severed by the out-spread firmament; and the lower must repair all to one sea as their natural subject: and as for heavy substances, they hasten downvvards; and the light ones, they fly upvvards. In like manner, that light vvhich at the first vvvas dispersed and fixed to no subject, doth presently (as soon as the Sun vvvas) unite it self unto that body, as novv it is.

This of all other seemeth to me the best opinion to pitch upon, and the most probable in this kind; vvhich may vvell be as an Emblem hovv God vvill one day gather his elect from all coasts of heaven to the participation of one glory. S. Paul applicth it to our regeneration, thus; * *God, who commanded the light to shine out of darkness, hath shined in our hearts, &c.* that we who were once darkness, are now light in the Lord. And in this consideration I think vve need not much dissent from them vvho vvould have the element of fire signified by it; vvhich opinion vvvas before mentioned; for hovvsoever it be that that element be novv dispersed, or vvheresoevv placed, yet it might be: that the first light shined from it; thus I say it might be, because vve may not reason * *a falso ad fieri*, or from the order of the constitution of things in vvhich they now are, to the principles of their institution whilest yet they vvvere in making. And for further proof of this, I do easily assent to them * vvho have probably affirmed that the stars and light of heaven contain the greatest part of this fire; as aftervvards in the fourth dayes vvork shall be more plainly shewed.

In the mean time this I add, That the Light novv made vvvas that very thing vvhich God himself called DAY. For he called the Light DAY, and the Darkness he called NIGHT, Gen. 1. 5. By vvhich it appeareth that this first Light vvvas made in motion, and vvvas created in the Eastern part of that Hemisphere in vvhich Man vvvas made. For unless it vvvere moveable, hovv could it measure any space of time, or by an alternate course distinguish the Day

* 2 Cor. 4. 6.
& Ephe. 5. 8.

* Purch. lib. 1.
cap. 2.

* Lyd. Praef. f.
Astron. cap. 4.

Day from Night? Or if created in the middle or other than the Eastern part of Heaven, the first had not been *Dies unus, sed dimidius seu mutilus*, not one Day, but the half of a Day, or a Day in part, maimed and incomplete. And because the Evening is first mentioned; and then the Morning: thus much is further shewed, That the natural Day is from the Evening; and the artificial, from Morning to Evening again, when the light absents her self and disappeareth.

This is the beauty of all the beauties else: for even all the beauty of the world had been as nothing if so be this bright shining creature had never been.

Gods eldest daughter, Oh how thou art full
Of grace and goodness! Oh how beautiful!

Dr. Barlow day
of 1. week.

Quest. But if God made the Light, was he not before in darkness? *Ans.* No: for he needs not any created light, who is himself a Light uncreated; no corporal light, who is a spiritual one. *God is light and in him is no darkness at all*, 1. John 1. 5. He made this Light for our mortal journey on earth; himself is the Light of our immortal abode in heaven: neither did he more dwell in this Light that he made, than the waters were the habitation of the Spirit, when it was said that *the Spirit moved upon the waters*.

But see, there was Night. Light and Day before the Sun; yet now without it there is neither: which sheweth that we must allow God to be the Lord of his own works, and not limit his power to means.

And surely as it was before man was made, so shall it be after he is dissolved: For then, as the * Prophet speaketh, *The Sun shall no more be thy light by day, neither shall the Moon give light unto thee: but the Lord shall be unto thee an everlasting light, and thy God thy glory*.

* Isay 60. 19.

Lastly, unto this amongst many things let me add but one thing more. God made light on the first day; so Christ arose from death on the same day, being the first of the week: And he is the true light which lighteth everyone

that cometh into the world: Of which light if we have no portion, then of all creatures man is the most miserable.

S E C T. III.

Of the intercourse between day and night.

WHat now remaineth? God called the light Day, and darkness Night: 'Tis true,

Th' Alls Architect alternately decreed,

That Night the Day, the Day should Night succeed.

Of both which we have more than manifold use and benefit. The night easeth the burden of the day; the day driveth away the terror of the night. The night burieth our cares, and doth what she can to drown all our griefs in a silent sleep: the day serveth for our needful labours; is the wicked mans just terror, the mother of truth, and true beauties only glass, wherein she may both see her self, and be also seen. The night serveth to temper the dayes exceeding drought, and to cool its heat: for by moistning the air it makes the earth to fructifie: the day again warmeth the coolness of the night, melting the white hoary hairs of winters beard; and with a reviving, cherishing, and nourishing of things, as well sensible as vegetative, adds life afresh into the dying Universe; serving (as I said before) for the needful labours of man: For, as the Psalmist hath it, *The Sun ariseth, and then man goeth forth unto his work, and to his labour until the evening*, Psal. 104. 22. And so also for the night, it is destined or appointed for quiet and sleep, wherein the wearied bodies of living creatures are refreshed, and their strengths repaired: the noisome beasts now come forth and feed, lest coming in the day they might be a terror unto men: For as the Psalmist again recordeth, *Thou makest darkness that it may be night, wherein all the beasts of the Forrest do move; as the lions roaring after their prey, and the like*, vers. 20.

But of this enough. And now last of all when this
dayes

dayes work was done or brought to an end, God is said to view it, and behold there was nothing amiss; That is, *Moses* speaking according to our capacities, telleth us that God doth approve and ratifie that work now done, which before he purposed to make.

So Eve and Morn were now the first of dayes,
And God gives to his work deserved praise.



C H A P. IV.

*Of the second day; and of such things as are pertinent
to the work done in it.*

Sect. 1.

*Of the Expansion, or stretching out of the
Heavens.*

COncerning this dayes work what it was, we find it thus expressed, *And God said, Let there be a firmament in the midst of the waters; and let it divide the waters from the waters. And God made the firmament; and divided the waters which were under the firmament, from the waters which were above the firmament: and it was so. And God called the firmament Heaven: and the evening and the morning were the second day, Gen. 1. 6, 7, 8.*

This is the narration of what was done. And here let us consider, first of the Firmament: then of the waters which it separateth: and lastly of the several Heavens,

together with the regions of the air, and of such appearances as we use to see there: unto which if any thing else be met withal pertinent to this dayes work, it shall be added.

* *Iunius, Gib. ben, and others.*

* *Meib. Theol. 4.2. pag. 333.*

The word * *Rakiab* translated *Firmament*, signifieth *Expansum*, or *expansionem*, which is a stretching out: not only from the earth, but about the earth: so that the world being mans house, the Firmament is as the vaulted roof of it: Or (as *Hiperius* observeth) it is *tanquam theca quadam, omnia qua Deo ipsa superiora sunt, inclusa continens*; as a certain husk, shell, or box, inclusively containing all things without the Heaven of heavens, or which are below that place where God doth manifest his glory. Which also is further to be seen in the hundred and fourth Psalm, at the second verse, where it is said, that *God hath stretched out the heavens as a canopy*: or *extendisse incurvando oculos tanquam conopseum*, as some read it: by which comparison it seemeth that the Firmament is not so much *expansum ratione extensionis a centro, quam circa centrum*: not so much a thing stretched out by reason of its distance from the centre, as about the centre.

* See *Gibbens* on Gen. chap. 1. quest. 5.

And again, we call it the Firmament, because in the stretching out it was not weakned, but made strong: In which regard Expositors do well observe the difference which is between *Rakiab* and *Karab*. For, the word which is here used, they read it *Rakiab*, and * say that it doth properly signifie a thing made strong by stretching out; being therefore contrary to the word *Karab*, which is to break in stretching.

* See *Lydiat* *disquisitio Phys. cap. 10. pag. 196.*

And the Greek likewise, that they may give a full expression according to the properties of the word, do translate it and call it *Στεγνός*, from the verb *Στεγνόν*, signifying to make strong or firm: and thus also the ancient Greek Philosophers observed, calling the whole compass of the heavens * *Στεγνός*, meaning the very utmost bound of them, which is not so weak that it should be broken

broken in stretching; but strong, and far more free from a fluid Nature than is that air which the concave of it keepeth.

The Latines also call it *Firmamentum*; and we, in our speech, the *Firmament*: which in respect of its extension is the whole compass of heaven on all sides; being as it were the case of the visible world and all things in it, as hath been shewed.

Sect. 2.

Of the waters above the Heavens.

BUt from the concavity of this firmament, we may pass to the convexity of it. And now if it be considered as it is convex, then we shall come to the examination of that which God assigned as proper to it most especially; viz. that it separate the waters from the waters. For this out-spread firmament is by its office to separate; and to be, not above the waters, but between them: and therefore those waters which it separateth, cannot be such waters as are in the clouds, but rather above the concave of the firmament.

If they be such as are in the clouds, then are they rather in the middle of the firmament, than the firmament in the middle or between them. And this made one argue thus, saying, * *Expansio in nubium regione aut finitur, aut ulterius extenditur: si ibi finitur, stellas infra nubes constitutas esse oportet. Sin ulterius extenditur, supercaelestes aquas ab inferioribus expansio non sejungit, sed nubes potius unam expansionis partem ab altera dispecunt. Atqui utrumque horum à Moysi narratione absonum. Tutissime igitur aquas caelestes supra sidera esse constitutas; totumque illud, quod à globo terra & aque sursum expanditur, cæli vel aeris nomine contineri sentiemus.* That is, The out-spread firmament either is ended in the cloudy region, or is further extended. If it ended there, then the stars must needs be under the clouds, because they are within the firmament,

Goelen. dispus.
18. scilicet. 29.

firmament, Gen. 1. 6. *But if it be further extended, then the supercelestial waters are not separated by the firmament, but rather the clouds sever one part of the firmament from the other: both which are against Moses his narration. Therefore we may safely think that the celestial waters are above the stars, &c.*

In which regard it may be also thought that both these waters dropping from clouds in the air, and also all other waters under the canopy of Heaven, or within the concavity of this *Expansum*, are but the lower waters: and those other, which are separated from them, must be in an higher place, *viz.* above the firmament, and so shall they be divided by the firmament; otherwise not. To which purpose * *Dn. Baris* thus,

I'll rather give a thousand times the lie
To mine own reason, than but once desie
The sacred voice of th' everlasting Spirit,
Which doth so * often and so loud aver it,
That God above the shining firmament,
I wot not, I, what kind of waters pent.

Or, as * *Hyperius* also writeth, *Assennemur Mosi, ac simpliciter statuemus aquas non tantum infra firmamentum, ubi in portiones & quasi regiones certas ea ipsa sunt distributa, aliaque per aerem circumvehuntur, alia terris sunt agglutinata; verum etiam super illud esse alias undique circumfusas.* That is, *Let us assent to Moses, and plainly determine, that there are not only waters below the firmament, as it were divided into certain portions and regions, some of them carried about through the air, some fastened to the earth; but also that there are other waters above the firmament spread round about it.*

Which thing is also thus further manifested; because those waters that are separated by the firmament, are to be at all times separated. For God, in the creation of this firmament, did not only command that it should separate, but also that it should be separating: that is, *Let it * continually separate or divide the waters from the waters;*

* In his second day of the first week.

* Gen. 1. 7. -
Psal. 104. 5.
Psal. 148. 4.

* *Hyp. Meth.*
Theol. lib. 2.
pag. 335o

* *Ainsworth*
on Gen.

waters; * *quasi vulneris nullum esse tempus quo non distinguat*; *Lydiat. distinguat. Phys. cap. 10.*
 as if he would have it that there should be no time wherein it might not distinguish between the one and the other. Which as it cannot be done unlesse there be alwaies waters to be distinguished; neither can it be pertinent to those waters in the clouds, because the air is often clear, and those bottles of rain are not alwaies there.

And again, it is from the vapours drawn from * below that clouds and rain come: which cannot at all times be; but then only when there is a natural concurrence of causes to effect it. And then again when they are there, they be soon gon: for the rain, proceeding from those vapours which we call the clouds, stayeth not long in the air, but forthwith falleth down again and so by little and little the vapour consumeth and the cloud is gone. How can it therefore be that these should be those supercelestial waters separated from all others waters by the firmament, seeing the firmament is above them? and not only so, but also their proper place is here below, being but at times drawn from hence, and then it is as it were against their wills, which makes them therefore haston hither again with all the speed they can: whereas on the contrary the firmament is to be between those waters, and not over them; separating them not at times, but continually.

Neither may it seem strange how the out-firmament can be able alwaies to uphold them, seeing (as hath been said) it was made strong by stretching out, lifting then the waters up with it, and therefore well fitted for this office, and can no more fall than * the heaven it self, whose beams or rafters are laid in the waters as the Prophet speaketh, Psalm 104. And hereupon it also was that noble *Bartas* said,

I see not why mans reason should withstand,
 Or not believe that He whose powerful hand
 Bay'd up the Red sea with a double wall,
 That *Israels* host might scape *Egyptians* thrall,

Could

* Jer. 10. 13.

* *Decidere non magis quam celum ipsum queant, Hyper. Meth. Theol. lib. 2. pag. 335.*

Du. Bart. 2. d. of the 1. week.

Could prop as sure so many waves on high
Above the Heav'ns star-spangled canopie.

This was his opinion concerning the waters separated by the firmament; of which opinion are sundry more.

The contrary
and their rea-
sons.

* Job. 26. 8.

But on the contrary side are other some who are of another mind, affirming that they are meant, only those waters in the clouds: for (say they) the air is called the firmament; so also is the skie, &c. And of the clouds it is said in Job, that * *God bindeth up his waters in thick clouds, and the cloud is not rent under them.* So that, first as every part of the water is called by the name of water; in like manner every part of the firmament is called by the name of the firmament; in which regard those waters in the clouds, although no higher than the air, may be taken for those waters which the firmament doth separate: and secondly, that place in Job sheweth no less, making it appear, how and in what manner the waters are separated by the firmament.

* In Gen. pag.
1701

* Plin. lib. 31.
cap. 1.

Furthermore, *Ex ipsa nubium natura*, saith * *Pareus*, From the very nature of the clouds this appeareth to be so: for what other thing are the clouds but waters separated by force of the diurnal heat, and by the cold of the air made thick? whereupon (as *Plinie* called them) they are said to be * *Aqua in caelo stantes*, waters standing in the heavens. Also, it may be added (saith *Pareus*) that *Moses* makes mention but of two kinds of waters *superam, & inferas*, the higher and the lower: but the clouds are waters, as hath been shewed; and no low vwaters; therefore they are the upper vwaters: unless there be three kinds of vwaters, vvhich is contrary to *Moses*.

Besides, this (saith he) is confirmed by the grammaticall construction of the words. For *Moses* saith not that it divided from the vwaters vvhich vv ere *supra Expansum*; but thus, viz. from the vwaters vvhich vv ere *desuper Expanso*: The sense therefore is, not that the vwaters vv ere carried up above the vvhole *Expansum* or Firmament; but rather that they vv ere carried upvvards, so, as that vvith the

the firmament they were *supra & desuper*; that is, *above and on high*.

Also, the name of heaven confirms no less: for (saith he) the *Expansum* is called according to the Hebrews *schamajim* or *shamajim*; from *Sbam, There*; and *Maajim, Waters*: which derivation is common. And therefore those upper waters are not quite above the *Expansum*, or the Firmament; but are *there*, that is, in the Firmament, namely in the middle Region of the air.

Thus we see the difference concerning these waters. And now let the Reader chuse which opinion likes him best. But for mine own part I like this latter worst; yet let me not tie another to be of the same mind any further than he pleaseth; for it is no matter of faith, and therefore we have our free choice according to the best reasons and most forcible demonstrations. Wherefore let me proceed a little further, that thereby (as near as I can) I may set down that which seemeth to me the best meaning & nearest to the truth.

First then I answer, that they do mistake who divide the *Expansum* into parts, as if in so doing they could absolutely clear the matter in question: for it is not a part of the Firmament that is appointed to this separating office, but the whole Firmament; as any one may see, if he do but observe the words of God, producing and assigning it. Neither do we find that the firmament is any more than one. To divide it into parts so as they imagin, is not to divide it into parts, but rather to make so many Firmaments as they imagine parts; like as every scale of an onion is a several and differing scale, and not one the part of another. And besides, neither is there the same reason between the parts of water and these supposed parts of the Firmament: for then when God made the Sun, Moon, and Stars, he would not have said. Let them be *in the Firmament*, but *above the Firmament*; for they are far higher than the clouds; yet, I say, the being higher than the clouds, he is said to place them but in the Firmament: and they being no more but *in it*, how improperly do we affirm those things to be above it;

F

whose

The Reader is left unto his free choice.

The matter in Question is cleared by answering the contrary Arguments.

The Sun, Moon, and Stars, are higher than the Clouds, & yet they are not said to be above the Firmament, but in it: The Fowls also flie in it, but not above it.

whose places are lower than either Sun , Moon , or Stars!

* Jer. 20. 11.

And secondly , admit *Job* tells us that there are waters bound up in thick clouds ; doth not *Jeremy* also tell us that they are drawn up in * vapours from the Earth ; which (as hath been shewed) cannot at all times be, but then when there is a natural concourie of causes to effect. it: whereas the out-spread Firmament is to be always between them, separating them, not at times, but continually. And as for the rain proceeding from those waters which we call the clouds , it stayeth not long in the air , but forthwith falleth down again ; shewing that of right that proper place is here below ; and therefore we make not three kinds of waters (as if we would be contrary to *Moses*) in saying that there are other waters above the concave of the Firmament, which on this second day of the worlds creation were separated from all other waters.

There was no middle Region until the third day.

Wherefore observe but this , they being separated on this second day , how could they be such as the air affordeth ? for the middle Region of the air , which is the place for the clouds , was not until the third day: Not until the third day , I say , because it is found by experience, and from sufficient witness proved true, that the tops of the highest mountains do reach up unto that place which we call the middle Region of the air , being some of them more lofty than the clouds.

* Viz Three hundred furlongs, which make thirty seven miles and an half.

As for example , in *Japan* there is a mountain called *Figeniana*, which is some certain leagues higher than the clouds. And in *Ternate* among the *Philippine* Islands there is a mountain, which (as *Mr. Purchas* in his pilgrimage relateth) is even angry with nature because it is fastened to the earth, and doth therefore not only lift up his head above the middle Region of the air , but endeavoureth also to conjoyn it self with the fiery Element. And of the mountain *Athos* between *Macedon* and *Thrace* , it is said to be so high , that it casteth shade more than * thirty

ty and seven miles. Also the mount of *Olympus* in *Thessaly* is said to be of that height, as neither the winds, clouds, or rain do overtop it. And (although I omit sundry others of exceeding height) it is also written of another mount so high above the clouds, that some who have seen it do witness that they have been on the top of it, and have had both a clear skie over their heads, and also clouds below them pouring down rain and breaking forth with thunder and lightnings: at which those below have been terrified but on the top of the hill there was no such matter. This surely was that mountain which * *Mr. Lidat* meant when he said that *etiam aestivis diebus*, even in the summer time, when the clouds are at the highest, those on the top of the mountains have had fair weather, and withall perceived that there was plenty of rain about the middle height of the same hills.

Thus we see that there are lofty mountains: And indeed their loftiness is the cause of a middle Region; for the hills, hindering the air from following the motion of the heavens, do make it about their tops a fit and convenient place to thicken these vapours into clouds, which by the attractive power of the heavenly bodies are drawn up thither.

Wherefore (that I may conclude) the place of the middle Region being both caused and also overtopped by sundry high mountains, it will appear that there was no middle Region of the air until the third day, because the waters were all over the earth, and standing above the hills until that very day: For then, and not before, God gathered them together unto one place, and made the drie land appear, which before was covered with waters as with a garment, *Psalm. 104. Rarior aqua, saith one, velut nebula, terras tegebatur, qua congregatione densata est; The thin water, like a mist or wet cloud, covered the earth, which by gathering together was made thick; In which regard it may be said, saith * Aquinas, that it was as natural for the water to be every where about*

As *Atlas, Pelion, Ossa, Caucasus, and Tabor*, which last riseth up thirty furlongs, as *Iosephus* writeth.

* *Lyd de Orig. fontium, c. 10.*

* *Aquin. Sum. part. 1. Quest. 69. Art.*

the earth, as for the air to be about both water and earth; yet nevertheless, *propter necessitatem finis*, saith he, *for the necessity of the end*, namely that plants and living creatures should be upon the earth, it was meet that the earth should be so uncovered, and the waters so gathered, that the drie land appear. Now this was a work pertinent unto the third day; and before the work done there could be no middle Region: and the middle Region being on this day and not before, how can the waters in the clouds be those waters which were separated by the out-spread Firmament on the second day? Neither do I here argue *à facto ad fieri*, because in the very creation of this Firmament, God then said, *Let it be between the waters*; that is, even then beginning its office and act of separating them. Which that it is even so, we see he speaketh next concerning the lower waters, and makes no more mention at all of those upper ones, because he had already done with them, and left them in their place unto which he had appointed them.

Of the Windows of Heaven opened in the Flood.

But furthermore, this tenet is not a little helped by a consideration of the cataracts or windows of heaven which in the dayes of *Noah* were opened, and poured down rain by the space of forty dayes: For methinks the clouds could not be those windows of heaven, because it rained forty dayes, and before it left raining the waters were higher than the hills, being, when forty dayes were ended, fifteen cubits above the highest mountains, as in the history of the Flood is manifest. And hereupon it was that one once by the same reason concluded and said, that either it did not rain forty dayes, (which assertion we are sure is false) or else it rained from some other where than from the middle Region: For seeing the middle Region it self was drowned before it ceased to rain, it cannot but be that the rain descended from some higher place.

1. *Obiect.* But perhaps some may think that the clouds mounted higher and higher as the waters increased; in-
somuch

so much, that as the Waters by little and little, gat above the Mountains, so did the Clouds.

Ans. This cannot be, because that which makes us distinguish the air so, as it may have a middle Region, is nothing else, but the differing temper that it hath, both from the upper and lower Region; and this differing temper is caused by the Hills, which hindering the Air from following the motion of the Heavens, do make it a fit place to thicken those vapors into Clouds, which by the attractive power of the Stars and Planets are drawn up thither; as already hath been shewed, and as afterwards shall be touched, when I come again to speak of the several Regions, and their tempers; shewing you that it is an Axiom undeniable, That the farness from a circular motion gives quietness, coldness, and heaviness; even as the nearness to it, gives motion, heat, and lightness.

2. *Object.* Or secondly, perhaps some may think that the Hills and Mountains were not before the Flood, but made by the violence of the Waters; and, that *Moses*, when he would describe how high the Waters were, doth but shew us, That they were higher by fifteen cubits, than the highest Mountain that was then in his time; which he might well say, and make such a comparison, although there were no Hills before the Flood.

Ans. That which hath been said in the former answer, concerning the cause of the middle Region, doth sufficiently stop this last Objection, unless it be granted, That there were no Clouds until the Flood had made the Hills. And indeed, if any such thing be granted; then all is granted, and the controversie quite ended, concerning these Waters above the Heavens.

But besides that answer, I hope to make it appear, That Mountains, Valleys, and Plains, were created in the beginning, and were before the Flood in the days of *Noah*.

That Hills and Mountains were not caused by the Flood.

For

For first, if hills were caused by the Flood, then it must be that the waters sufficed an extream violent motion; but the waters being over the whole face of the earth had nothing to hinder them from their own free motion, nor any thing to compel them to a violent motion; such I mean as should make them work such wonders as are supposed. Had they been over-topped by any thing, then indeed running from one place to another there might have been a repercussion, and by such contention more strange accidents than were, might have been produced, as the making of hills, and the like.

Or secondly, if there were such a violent motion, (as questionless the waters moved until all places were filled like, with no small violence) yet the violence was not so great as to be the parent of the hills and mountains; for then without doubt it would have been so forcible also as to have turned rivers, and changed them from one place to another, cast down all manner of buildings and structures, rooted up all trees and the like, so that after the Flood nothing should have had the same name, bounds, and description which before it had, neither would the memories of the former ages have been but buried from all succeeding time; which we know is otherwise: for if it were not, it is likely that *Moses* speaking of the site of *Paradise*, and setting down all the rivers of it exactly, would have specified it in his history, that thereby after-ages looking for those places might not mistake or suspect the truth of his relation. Neither have we just cause to think that all buildings and ancient monuments of the Fathers before the Flood were extinguished in the flood: For it is reported by * *Pomponius Mela* and *Plinie*, concerning the city *Joppa*, that it was built before the flood, and that *Cepha* or *Cepheus* reigned there; which is witnessed by certain ancient altars, bearing titles of him and his brother *Phineus*, together with a memorial of the grounds and principles of their religion. And of the city *Henoch* there is a much like relation.

But

* *Pom. Mela*.
l. 1. cap. 11. &
Plin. lib. 5.
cap. 23.

But what need I mention more, seeing * *Josephus*, a writer of good credit, affirmeth that he himself saw one of those pillars which was set up by *Seth* the Son of *Adam*? and this for the truth of it was never questioned, but warranted by all antiquity.

* *Antiq. lib. 1.
cap. 3.*

Moreover, seeing the dove was twice sent out of the *Ark*, and returned with an olivebranch at her last return, and not at her first, it is not without reason that we think the trees were not torn up by their roots, but remained still fixed in the ground even as they had done before; for if the trees had been swimming or floating upon the waters (as some may think) then the poor dove might have found one branch or other as well at the first as second time. Besides, when she did bring any thing, *Noah* took it not as a token what havock the flood had made, but as a sign that the waters were decreased: she therefore plucked it off from some tree growing on the earth, and not floating on the waters.

And last of all (although I say nothing of the delectation and profit of the mountains, which do thereby even amplify the goodness of God in his works, creating and not occasioning them) I shall need to point you no further than to the plain text it self, which doth most plainly tell us, not that the waters were as high as the highest mountains which are now, or were then when *Moses* wrote his history, but that even from the beginning there were hills and mountains whose lofty tops in the universal flood were covered with waters: for thus stand the words, * *And the waters prevailed exceedingly upon the earth: and all the high hills which were under the whole heaven were covered. Fifteen cubits upward did the waters prevail; and the mountains were covered.* Whereupon, as I remember, * one writeth thus, saying that this judgment was admirable, seeing there are mountains, as *Atlas*, *Olympus*, *Caucasus*, *Arbos*, and other such, that are so high, as their tops are above the clouds and winds (as Historiographers do report it) and yet

* *Gen. 7. 19, 20.*

* *Ans. on
Gen.*

see,

see, all these are covered : And these being covered, the middle Region must needs be drowned ; and that being drowned, how could the Clouds be those Windows of Heaven, which poured down rain forty days ? And those not being the Windows of Heaven, it cannot but be, that the Waters above the Heavens, are in a more remote and higher place, even above the concave of the outspread Firmament.

3. *Object.* But perhaps you may think that I now pitch too much upon reason, concerning this of the Flood, seeing it was caused not by natural and ordinary means, but by the extraordinary power of God.

Answer. To which it is answered, That this Flood was partly natural, partly supernatural ; and to shew how far nature had a hand in this admirable effect, we may distinguish with them, who say, That an effect may be called Natural, two manner of ways : First, In regard of the causes themselves ; secondly, In regard of the Direction and Application of the causes. If we consider the meer secondary and instrumental causes, we may call this effect Natural ; because it was partly performed by their help and concurrant : But if we consider the mutual application and conjunction of these second causes, together with the first cause, which extraordinarily set them on work, we must needs acknowledge it to be supernatural.

Now then, although we have built upon Reason, and so found, that before forty days fully ended, the middle Region it self was drowned, whereupon it could not rain from thence ; yet in so doing, we do not argue amiss : For it is no whit derogating from the power of the Almighty, to ascend up higher, till we finde the cause of this long rain, and also the place from whence it came ; seeing, that when we have so done, we shall plainly finde, That in regard of the Direction and Application of the Cause, it was extraordinarily set on work by a divine dispensation ; and so the effect was supernatural.

I may therefore now proceed ; and that I may make the matter yet a little plainer concerning these Cataracts or Windows of Heaven, and so by consequence of the Waters also above the Heavens, this in the next place may be added ; namely, That *Moses* setteth down two causes, by which there grew so great an augmentation of Water, as would drown the World : The one was, the Fountain of the great Deep ; the other was, the opening of the Windows of Heaven. Now if these Windows were the Clouds, then it seemeth, that the Waters were increased but by one cause : For the Clouds in the Air come from the Waters in the Sea, which by descending, make no greater augmentation than the decreasion was in their ascending. And although it may be thought, that there are Waters enough within the Bowels of the Earth, to overflow the whole Earth (which is demonstrated by comparing the Earths diameter with the height of the highest Mountains) yet seeing the Rain-water is made a companion with the great Deep, in the augmentation of the drowning Waters, I see no reason why that should be urged against it ; especially, seeing it is found, that the Earth emptied not all the Water without the Bowels, but onely some : For thus stand the words, *The Fountains also of the Deep, and the windows of Heaven were stopped, and the Rain from Heaven was restrained.* Their store therefore was not spent when they had sufficiently drowned the World ; but their fury rather was restrained, when they had executed Gods purpose by climbing high enough above the Hills.

Gen. 8. 2.

Cardinal *Cajetan* ~~was~~ conceited, that there was a Mount in *Paradise* which was not overflown, and there, forsooth, he placeth *Enoch* : The like dream also they have amongst them, concerning *Elias*. And, as their Champion and Goliath *Bellarmino* is perswaded, all those Mountains onely were overflown where the wicked dwelt. ^b *Josephus* also reporteth out of *Nicholas Damascenus*, That the Hill *Baris* in *Armenia* saved many who fled thither for succor. But these are dreams and devices, which are soon over-

a Dr. Will. ex
Bel. de gra-
pri. hom.
b Antiq. lib.
cap. 4.

thrown by *Moses* in his foresaid evident Text; where the words are so general, that they include all and every Mountain, under, not onely the Airy Heaven (as *Cajetan* collecteth) but under the whole Heaven without exception.

And now after all, what hindereth that there should not be Waters above the concave of the Firmament, and that the opening of the Windows of Heaven should not be more than the loosing of the Clouds? For it is affirmed, and not without reason you see, That the Rain, or a great part of it which fell in the Universal Flood, came from an higher place than the middle Region of the Air; and that the upper Waters are to be above the Firmament, and not the parts of it, is an assertion well agreeing to *Moses* his description of this Second Days work. For (as hath been shewed) concerning the Fowls and Stars, it is true, That they are but in the Firmament, and not above it: neither is there any more Firmament than one, seeing *Moses* mentions not a second. The Fowls indeed flie above the Earth (as the Text it self speaks in *Gen. 1. 20.*) but not above the Firmament; their course being (as *Juninus* reads the place) *Per sui superficiem expansi caeli*, or *ante expansum*, or *coram expanso caeli*, but never *supra expansum*. And as for the Stars, the Text like wise saith, *Ver. 15. Let them be for Lights in the out-stred Firmament*; mentioning never more than one and the same Firmament. But for the Waters, it is otherwise: The Firmament is appointed to separate them, as being between, and not above them. *Ergo expansum inter aquas* (it is learned *Juninus* his right version of the place) *ut sit distinguens inter aquas. Fecit ergo Deus expansum quod distinguat inter aquas quae sunt sub expanso, & inter aquas quae sunt supra expansum*. That is, Let there be a Firmament between the waters, &c. Between the Waters, as having Waters above it: And now unlike it is, that the upper Waters should be placed otherwise, let the former reasons witness: For all things considered, we need not stand so much upon

a *Necessario ascendendum est, si modo nubes sint superiores illi aquae, duo esse expansa, & ita duo, quod aërica illius quod duorum multo est nobilius nulla fiat mentio*, *Lyd. de orig. font. c. 10.*

b *Distinguitur a word of the present tense, noting the present performance of that which it was made for.*

Paras his reading *super*, *Quasi in expanso*, and *Desuper expanso*; as if they were but above, or on high within the concave, as are the Fowls and Stars: This (I say) we need not stand upon, seeing *Junius* readeth *Supra expansum*, without any such nice salving, although he thinketh with *Parvus*, that these upper Waters are no higher than the middle Region of the Air. And also admit that some derive the word *Schamajim* or *Shamajim* (which signifieth Heavens) from *Sham*, there, or in that place; and from *Majim*, waters: Concluding thereupon, That these Waters which we now speak of, must be there, viz. In the Heavens, and not above them: although some (I say) make this derivation, yet others derive the same word otherwise. And not a few be there, who, not without reason, do suppose, that it is no derivative nor compound word at all; but rather, that the *Ismaelitic* word *Schama*, which signifieth nothing else but high or above, doth proceed from this word *Schamajim*, which in *English* we read *Heavens*: In which regard, the etymology helpeth nothing to prove the adverse part.

And yet (as I said before) let the Reader take his choice; for perhaps he may now think after all, that if there be Waters above the Starry Heaven; and that part of those Waters descended in the time of the Flood, that then the Heavens would have been corrupted and dissolved (as some have said) the Rain falling through them from the convexity of the out-spread Firmament.

An Objection answered, concerning the nature of the Heavens, examining, whether they be of a Quintessence.

But concerning this, it may be said, That it is not known whether the Heavens be of such a nature, as that the Rain falling through them, should dissolve or corrupt them. Those indeed who follow *Aristotle*, make them of a *Quintessence*,

* As *Val. Schindl.* and *Fagius* upon *Gen. chap. 1.* out of *Aben Ezra*.

essence altogether differing from things compounded of the Elements: But for mine own part, more easily should I be perswaded to think, that there is no such fifth essence in them, but rather, that they are of a like nature with the Elements, or not much differing.

For first, although *Aristotle* deny any change or alteration to have been observed or seen in the Heavens, since the beginning of the World; yet he was deceived: For *Hipparchus*, who had better skill in Astronomy than ever *Aristotle* had, he (as *Pliny* witnesseth) telleth us out of his own diligent, and frequent observations, That the Heavens have had changes in them: For there was in his days a new Star like unto that which was once in *Cassiopeia*. And that which is beyond the authority of the greatest Philosopher, doth also witness as much; I mean, the sacred voice of the everlasting Spirit, affirming, That the two parts of this Universe, the Heavens as well as the Earth, do both of them *as an old, even as doth a garment*: Which is, as if it should be said, That by little and little they are changed, tending so long to corruption, till at last shall come the time of their dissolution.

What great difference then can there be between the Heavens, and things here below, seeing in their own natures, both of them do tend to corruption, and are subject to mutation?

Besides, as it is with Man, who is the little World; so certainly it is with *Macrocosm*, who is the greater World. But man changeth and declineth daily, not being now as heretofore he hath been: and so also, as a good consequence it must follow, That the greater World doth also suffer change, and by declining, alteration. That man declineth, saith one, is a thing most manifest: For men are of lower stature, lesser bones and strength, and of shorter lives than their Forefathers were. Now from whence cometh this, but from the declining state of the greater World? The Earth, we see, which is the lower part of it, is not so fruitful as before, but beginneth to be barren like the Womb

*Plin. lib. 2.
cap. 16.*

Psal. 102. 26.

*Dove Confut
of Atheism,
chap. 14.*

Womb of *Sarab*; neither do the fruits which she bringeth forth, yield so much nutriment as heretofore they have done. And how cometh that to pass, but because the Heaven also fainteth? For the Planets wax old, and cannot afford so great virtue and influence to these lower Bodies, as in time past they did; which * *Pliny* and *Aulus Gellius* testifie. And indeed, this must needs be a manifest proof, seeing less and weaker Bodies are conceived every age in the Womb of Nature, that Nature therefore waxeth old and weary of conceiving.

Also, saith he, if a man do but behold the Face of Heaven, the *Moon* looketh pale and wan, *Mars* less rubicund, *Sol* less orient, *Jupiter* not of so amiable and favorable countenance, *Venus* more hypocritical, and all the rest, both of the wandering and fixed Stars more weak and suspicious than they did before. That mighty Giant which was wont to run his unwearied course, now waxeth weary, as if he would stand still in Heaven, as he did in the days of *Joshua*; for he shineth more dimly, and appeareth more seldom than before, being much nearer to the Earth, than of ancient times. For, (if we may give credit to the calculations of the chief Master in Astronomy) the Sun, quoth *Copernicus*, and after him also *Stofler*, is nearer to the Earth, than it was in the days of *Ptolemy*, by the space of Twenty six thousand six hundred and sixty miles; or (as *Philip Melancthon* saith) Nine thousand nine hundred seventy and six miles; to whom (saith * *Dietericus*) assenteth that famous Mathematician of our age, *David Origanus* in his Prognostication for the year of our Lord One thousand six hundred and four.

All these are proofs: And although we do not greatly contend, concerning this last allegation of the Suns approach so near us, yet nevertheless the assertion in general is true enough, That the Heavens as well as the Earth, as they grow older and older, do suffer change, and in that regard their natures cannot but be much alike.

* Idem. ex
Plin. lib. c. 16.
& ex Aulo
Gell. Noct.
At. l. 1. c. 1.

Plal. 19. 6.

* Diet. Possill.
Dom. 1. in Ad-
vini.

Unto which add this, namely, That these visible Heavens, of which we now speak, were taken from that mass or lump which lay here below, and that the whole lump was created at once; in which regard, it cannot be denied, That they differ *in genere* or altogether, but that they are of a much like nature with inferior bodies, or things here below. And as for *Aristotle*, he never would so earnestly have defended the contrary, had he not known, that it was an excellent means to colour that which he also held, concerning the Worlds *eternity.

But besides all this, the observations of our best and modern Astronomers make much against him; for they have modestly and manifestly proved, That not onely new Stars, but Comets also have been seen above the Moon. As for example, that strange Star which once was at the back of *Cassiopea's* Chair, was of an extraordinary height above it; for it shined without any difference of Aspect, Parallax, or diversity of sight, even until all the matter whereof it consisted, was consumed; having always (as the observers thereof do witness) one and the same station to every of the Stars, both in all climates, and also in all parts of the Heaven, no diversity of sight at all observed: All which, in the lower-most Planets is otherwise, and perceived most of all in the Moon, because the Semidiameter of the Earth (according to which quantity we dwell from the centre) hath a sensible bigness unto the distance of the Moons sphere from us. Had therefore that new Star, Comet, or what you please to call it, been lower than the Moon, and not in the Starry Heaven, then (like the inferior Planets) it would have suffered a parallax or diversity of sight, and never have kept such a regular motion as it did; contending not to be overcome of the Starry Heaven in its motion, but to keep as it were, an equal pace with it; thereby shewing, that it was even in the *Ethereal Heaven itself*. For this is a rule, That by how much a Star is higher than the Earth, by so much it imitateth the highest Heavens in their daily motion.

Neither

* *Phys. lib. 8.*
cap. 1. & alibi
 See more concerning this in
Sir Christopher
Heydens last
 Book, set forth
 of late by *Dr.*
Fisk. *cap. 11.*
p. 32, 33. &c.
And Kepler,
also cap. 23.
De Nova
Stella,

Neither was it this Star alone, but others also after it, even Comets themselves, whose places were found to be above the Moon; for observing more diligently and exactly than in former times, the observers could easily demonstrate this truth also; thinking thereupon, that many of those Comets which have been in former ages, were burnt out, even in the Starry Heaven it self, and not so many of them below the Moon, as generally (without serious observation) have been supposed. * *Longomontanus* proveth this, both in that last Comet which was seen in the year 1618. and also in other Comets before it. And now what of all this? Nothing but only this, viz. If Comets be burnt, consumed and wasted in the Starry Heavens, it seemeth, that there is no great difference between them, and things here below: For, if there were, it might be thought that they would not suffer such earthly matter to ascend up their Territories; such, I say, as doth either wholly, or in part, compose them. Wholly, or in part, I add, because (perhaps) even the Heavens themselves may afford some matter towards the generation of them, especially if they be * new Stars, such as *Aristotle* never saw; wherefore he writes, That a Comet consisteth altogether of an hot, dry, and a kinde of oyle exhalation drawn from the Earth: And questionless in such as are utterly below the Moon, it is even so; but if they be higher, and continue longer, they, as well as new Stars, may have some help from such matter as the Heavens afford towards the generation of strange appearances: Which though they have, yet that they have no earthly matter is not excluded, because next under God, the efficient cause of these things, is attributed to the Stars, and their operation: for when these are aptly and conveniently placed and aspected, then by their power, working upon things here below, they draw up hot, dry, and oyle exhalations; and these exhalations afford unto Comets, that matter whereof they consist. *Ptolomy* attributeth much in this kinde to *Mars* and *Mercury*, and so do many others else besides him: And why the yearly Aspects of these

Stars

* *Lib. de novis
caus. Phénom.*

* For new
Stars, *Tychobromaeus*
affirmeth it,
*Lib. de nova
Stella.*

Stars do not always produce such effects, is, because they are not always affected in the same manner; but sometimes in one part of the Heavens, sometimes in another; and cannot therefore produce their intended effects, without either the meeting or avoiding, of apt or inconvenient occurrences.

But I conclude, and do yet affirm, That the nature of the Heavens is certainly such, that the Waters above the Heavens might pass or issue through them in the time of the Flood, and yet the Heavens not be dissolved, or suffer damage by their falling; damage, neither in corrupting them, nor yet in leaving a vacant place by coming all away. Of which, in the Fourth days work, when I come to speak of the Stars, I shall add yet something more.



C H A P. V.

How to understand the word Heavens ; and of the several Regions of the Air , together with a consideration of such appearances, as we use to see there.

Sect. 1.



And now to go on with the residue of this days work : God (said *Moses*) called the *Firmament, Heavens, &c.*

By *Heavens* in this place, *Moses* meaneth onely the Visible Heavens, because he speaketh onely of the visible part of the World ; and yet the same word which is here used, is sometimes put for the ^a Air, wherein Winds, Clouds, and Fowls do lie ; sometimes for the ^b Upper Firmament, where the Sun, Moon, and Stars are set ; and sometimes for the high places, where ^c Angels dwell. And hereupon it was, that S. *Paul* mentioned the ^d Third Heavens , wherein he saw things unspeakable.

The first of these is like to the outward Court of *Solomons* Temple, and is the most open to us.

The second is like his inward Court, less open, and abounding with Starry Lights or Lamps never going out.

And the next is as the *Sanctum Sanctorum*, whither he is entred once for all, who is a Priest for ever, and maketh intercession for us.

In the two lowest, is no felicity ; for neither the ^{*} Fowls nor Stars are happy. It is the third of these alone where the Blessed Trinity enjoyeth it self, and the glorified Spirits enjoy it.

^a Dan. 7. 2. 13.

^b Psal. 8. 9.

Gen. 1. 16, 17.

^c Math. 22.

10.

^d 2 Cor. 12. 2.

^{*} Bishop Hall's
Contemplations.

And questionless, in this highest part must needs be more than exceeding glory, seeing the other two within the concave of the Firmament, are so full of wonder.

But of the one of them, I shall need to speak little in this days work; yet of the other under it, as being more pertinent, something must be added.

Sect. 2. Parag. 1.

Of the Air, and the several Regions in it.

WE may therefore now (if you please) look into the Air: And here, following the common path, and separating it from the Starry Heaven, I must say, that it is divided into three Stages or Regions; although I verily think (as afterwards shall be shewed, when I come to speak of the Stars) that all this space, even from the Earth, to the eighth sphere, is nothing else but Air.

The highest
Region.

The highest Region is said to be exceeding hot, and also dry, by reason of the Neighborhood that it hath with the Fiery Element (as is said) and with the Stars; by the force of whose beams it receiveth heat, which is also much increased by following the motion of the Heavens.

The lowest
Region.

The lowest Region is somewhat contrary; for it is said to be hot and moist; hot chiefly by the reflection of the Sun-beams meeting with the Earth; and moist, by reason of the proper nature of the Air, and also by reason of the Vapors exhaled out of the Earth and Water. This is the quality which commonly is attributed to this Region.

But I think, that we may rather say it is variable; now hot, now cold, and sometimes temperate; differing according to the times and seasons of the year: In which regard, *Dr Barrow* writeth thus,

Warm

*Warm-temper'd show'rs do wash it in the Spring;
And so in Autumn, but more varying.*

In Winter time 'tis wet, and cold, and chill;

In Summer season hot and sultry still:

For then the Fields, scorched with flames, reflect

The sparkling Rays of Thousand Stars aspect,

The chief is Phœbus, to whose Arrows bright

Our Globy Grandam serves for But and White.*

Neither is it altogether variable, in regard of time, but also by reason of the diversity of place; some climates being more hot and dry, some more cold and moist than others; which cometh to pass according to their distance from the Equinoctial, towards either of the Poles.

Thus for these two Regions. But now concerning the middle Region, it is always cold; yet surely, in its own nature it would be warmer than the Region which is here below, were it not cooled by a cold occasioned by the reflection of the Sun-beams: For they, reflecting upon the Earth, drive up above the Beams of their reflection, much cold from below; which being daily supplied, is kept as a continual prisoner between the heat above, and the heat beneath.

Or, if you will, take it thus, namely, that it is cold, but not extremly cold; yet cold (I say) it is in respect of the two other Regions which are hotter than it. And this coldness happeneth partly through the causes before expressed; and partly by reason of the Air in it, which cannot follow the motion of the Heavens, seeing it is hindered by the tops of the Mountains. And hereupon it is, that the Philosophers make this a Rule, saying, *That* * *the farthest from a circular motion, gives quietness, coldness, and heaviness; even as the nearness gives motion, heat, and lightness.* Which in this thing concerning the middle Region is found to be true, the Air in it being cold, because it is hindered from following the circular motion of the Heavens. But (as I said) it is not absolutely cold, but respectively: For, if it were extrem cold, then

*On Batt. Sec-
cond day of
the first Week.*

* The Earth.

The middle
Region.

* *Remotio a mo-
tu circulari das
quiescem, frigi-
ditatem, & gra-
vitatem, sicut
propinquitas
das motum, cal-
iditatem, & levi-
tatem.*

the heat of the Sun would never pass through it to this Region here below; neither would there be Grass, Herbs, and such high Trees as are upon the tops of the Mountains.

But to proceed: 1. In the highest Region, and oft times above it, be generated Comets or Blazing-stars, and such like Fiery Meteors of divers sorts. 2. In the middle Region, Clouds, Thunder, Rain, Winds, Storms, &c. 3. In the lowest Region we have Dews, Mists, Hoar-frost, Ice, and Frost. As also here is your *Ignis fatuus*, or foolish fire, with other Lights burning about Graves, or such like fatty places, where there is store of clammy or fatoyly substance for their matter. These Lights are seen also in Fields, and are driven by a gentle wind to and fro, until their matter be consumed.

Now these and every one of these, seeing they have their causes in nature, let us a little view them, both how and what they are: For they who send us to God, and his decree in Nature, have indeed said what is the true cause, but not how it is by natural means effected. For the manner of producing these things, doth no less amplify the power and providence of God, than the things themselves when they are produced.

SECT. 2. Parag. 2.

Of Meteors, first in general, then how they are divided in particular.

AND these things, of which we now speak, seen in any of the Regions, by a general name are called *Meteors*. And the matter of Meteors, as it is remote, is from the Elements; but as it is propinque or near, it consisteth of exhalations.

Exhalations
are of two
kinds.

And Exhalations are of two kinds. 1. There is *Entnus*.
2. *Vapor*.

If it come from the Earth, or some sandy place, it is *Fumus*, a Fume, or a kinde of Smoak.

If it come from the Water, or some watry place, it is *Vapor*. For this is a rule, *That a Fume hath a certaine earthly nature in it, and yet is not Earth; and a Vapor hath a certaine watry nature in it, and yet it is not water.* Or, if you had rather take it thus, *Fumus est media natura inter terram & ignem; Vapor vero inter aquam & aerem*: That is, *A Fume is of a middle nature, between Earth and Fire; but a Vapor is of a middle nature, between Water and Air.*

And further, All Vapors are warm and moist, and will easily be resolved into Water; much like the breath that proceedeth out of a mans mouth, or out of a pot of Water standing on the Fire. And these are never drawn higher than the middle Region of the Air; for there they are thickned and conglomerated by the cold into Clouds.

And why Vapors are warm, being warm from that which is cold, is not from any internal property of their own, but they receive this quality from the power and influence of the Stars. For after that the matter is by them attenuated or made thin, their beams cannot but warm it, although it proceed from that which is cold.

Again, all Fumes are as smoaks which be Hot and Dry; which, because they be thin and lighter than Vapors, they often pass the lowest and middle Regions of the Air, being sometimes carried even beyond the highest Region it self.

And thus we see how there are two kindes of Exhalations:

*Th' one some hat hot, but heavy, moist and thick;
The other light, dry, burning, pure, and quick.*

Moreover, these Exhalations being the matter of Meteors (as hath been said) are either from the Earth or Water. As for the Fire and Air, they are mixed with this matter, as with all other things, but not so abundantly, that they may be said to be the material cause of any Meteor, although without them none can be effected.

And

The nature of Vapors.

Why Vapors are warm.

The nature of Fumes.

Three sorts of
Meteors.

And thus much generally. But now more particularly. And in coming to particulars, it may be found, that these kinde of Meteors concerning which I speak, are of three sorts; either *Fiery*, *Watery*, or *Airy*.

Fiery are of two sorts; either such as are in very deed fired, or else such as onely seem to burn, which are said that these *Fiery* ones are either *Flames* or *Apparitions*.

The sorts of
Fiery Meteors
which burn in
very deed.

And again in respect of their matter, if they be such as burn in very deed, then they be either more or less pure.

Their place where we see them, is according to the abundance and scarcity, or rather quality of the matter whereof they consist: For if it be heavy and gross, it cannot be carried high; but if it be not so gross, but rather light and more full of heat, then aspires and transcends, so much the higher, by how much it is the lighter; sometimes above the highest Region of the Air, even into the Starry Heaven it self; which is witnessed by our best Modern Astronomers, who have observed many Comets above the Moon.

Furthermore, these *Fiery* impressions, according to the diverse disposing of their matter, are of several fashions; and thereupon they have several appellations, being called according unto the names of those things, unto which they seem to be like. As

These sorts are
Ignis pura.

1. *Torches.*
2. *Burning Beams.*
3. *Round Pillars.*
4. *Pyramidal Pillars.*
5. *Burning spears, Streams, or Darts.*
6. *Dancing or Leaping Goats.*
7. *Flying Sparks.*
8. *Shooting Stars.*
9. *Flying Lances.*
10. *Fires, either scattered, or else, as if all the Air burned.*
11. *Flying Dragons, or Fire-Drakes.*

12. *Andring Lights.*

13. *And also licking or cleaving Fire, sticking on the Hairs of Men or Beasts.*

Now all these kindes (of which, I have mentioned Thirteen) I take to be such Fiery Meteors, as are said to be pure and not mixt.

Then again have you those which are said to be mixt, and less pure. As

1. *Comets of all sorts.*

2. *All kindes of Lightning.*

3. *Unto which, must be joyned Thunder, as an Adjunct.*

And now of these severally, before I mention any more of another kinde, whether Watery or Aairy.

These sorts are
Ignia mixta.

Sect. 3. Parag. 3.

Of such Fiery Meteors, as are pure, and not mixt.

1. **F***ax*, which is a Torch or Fire brand, or as a Lighted Candle, is an Exhalation Hot and Dry, drawn beyond the middle Region of the Air, where being arrived, it is set on fire (as are all Exhalations that come there) partly by their own heat, and partly by the heat of that place: And because the matter of the Exhalation is long, and not broad, and being equally compact, and fired at the one end, it burneth like a Torch or Candle, until the whole, whereof it consisteth, be consumed. And why it should burn at the one end, rather than at the other, is found to be, because it is long and standeth upright, having the most of its aspiring matter in the top: And in this station ascending up, it comes to pass, that when the upper end doth present itself to the heat of the upper Region, it is fired, and so consumeth by degrees, even as by degrees it descendeth, or peepeth into that hot place.

*Art. 1.
Of Burning
Torches.*

2. *Trabs.*

Art. 2.
Of Burning
Beams.

2. *Trabs ardens*, *A Burning Beam*, is an exhalation Hot and Dry, drawn beyond the middle Region of the Air; the matter of which exhalation being long, and not very broad, makes it seem like a Beam or Log; and because it is more gross and heavy on the under part from the one end unto the other, and on the upper part hath much aspiring matter equally dispersed. It is transversely carried up, and so being fired, it lieth at length, and standeth not upright.

Art. 3.
Of Round
Burning Pillars.

3. *Round Pillars* are of the same nature, unless perhaps their light and heavy matter is not so equally, or in like order disposed, but rather heavier towards the one end, than the other, which makes it be carried up or presented in perpendicular fashion; and also having the hottest and driest, and most combustible matter driven to the superficies, or out-side of it, by reason of a contrary qualified substance within it, which makes it therefore be fired on all sides alike, and appear like a burning Pillar.

Art. 4.
Of Pyramidal
Burning Pillars.

4. *Pyramidal Pillars* are nothing differing from the other, unless that the exhalation have more earthly matter in it below, and not so much above: For when the lighter and thinner parts are ascended to the top, then the grosser, heavier, and thicker, are left in the bottom: which makes it therefore of fashion great beneath, and small above.

Art. 5.
Of Flashings,
Streams, or
Darts.

5. *Burning Streams, Spears, or Darts*, is that Meteor which is called *Bolis* or *Jaculum*, and is an exhalation Hot and Dry, meanly long; whose thick and thinner parts are equally mixt: And thereupon being fired in the highest Region, it flameth on the thin or subtil part: which nevertheless, because the matter is well mixed, doth also send fire to other parts, in so much, that it seems to run like a Dart from the one, unto the other.

Or, if you will, this Meteor (or one very like it) is thus generated, viz. when a great quantity of Hot and Dry exhalations (which indeed may fitly be called a Dry

Dry Cloud) is set on fire in the midst, and because the Cloud is not so compact, that it should suddenly rend, as when Thunder is caused, the fire breaks out at the edges of it, kindling the thin Exhalations which shoot out in great number like to Fiery spears or Darts, the streaming or flashing being so much the whiter, by how much the Exhalation is the thinner. Such like coruscations as these, we use to see many nights in the North and North-east parts of the skie.

6. *Capra saltantes*, or *Dancing Goats*, are caused when an Exhalation hot and dry is so compact, that on the one side or other it hath some parts, which appear as the appendices of it, joyned to the main Exhalation by another kinde of Exhalation far thinner than the main one; so that the fire running on the main part, and as it were out-right, by the way it cannot but seem to skip unto those parts on the sides, inflaming them also; which, because it is variously and nimbly performed, makes the flame seem to leap or dance, just as wanton Goats use to do when they are dancing or playing.

Art. 6.
Dancing
Goats.

7. *Scintilla volantes*, or *Flying Sparks*, are caused when the matter of the Exhalation is not onely thin, but in all parts thin alike, but not compacted or knit together; and not being closely joyned, but interrupted by small spaces, those parts which come up first into the highest Region, are fired before the other that follow; and thereupon they flie abroad like Sparks out of the Chimney, even as when Saw dust, or any such like matter is cast into the fire. This Meteor by some is called *Stipula ardens*, or *Burning Stubble*.

Art. 7.
Flying Sparks.

8. *Stelle cadentes*, *Shooting* or *Falling Stars*, are caused when an Exhalation hot and dry is gathered, as it were, on a round heap, but not thoroughly compacted, nor yet so apt to ascend as other Exhalations, which makes it therefore be beaten back again, when it comes near the cold confines of the middle Region; and so, hovering aloft,

Art. 8.
Of Shooting
Stars.

* *Antiperistasis* is a Repulsion on every part, whereby either Heat or Cold, is more strong in it self, by Retraining the contrary.

by an * *Antiperistasis*, or repulsion by the contrary to it on every part, it is set on fire, and then sliding away, it appears as, if a Star, fell down, or were thrown to the Earth.

*For Shooting Stars, these some do fondly call;
As if these Heavenly Lamps, from Heaven could fall.*

Moreover, sometimes it is generated after another manner, which is but in respect of the disposing of the matter; and then the Exhalation is more long than narrow, which being kindled at the one end, burneth swiftly to the other, even like a piece of waxed thred, being lighted in a fire or candle.

Again, some think that this Meteor is not so much set on fire, as directly under some Star or other, which gives it a shining. But how this can be, I cannot well perceive, seeing it shooteth obliquely as oft as directly downwards.

Art. 9.
Flying Lances.

9. *Lancea ardans* or *volans*, A burning or Flying Lance, is another Fiery Meteor kindled in like sort, that the former was, and hath this name, because the matter of it is so disposed, that when it is fired it seems to be like a Lance.

Art. 10.
Of the Seeming Burning of the Heavens.

10. *Illuminations*, or Fires scattered in the Air, and appearing in the highest part of the lowest Region, are caused when very dry and hot Exhalations are drawn up, and meeting with cold Clouds, are sent back again; which motions, to and fro, do set them on fire, and then their parts not being thick in equal proportion, but, as it were, unjoynd together, do seem as though Fires were scattered in the Air. Thus one way. But sometimes the matter of this Exhalation is more nearly conjoynd, and then (if the Exhalation be large) it is as if the whole Air were on fire, as appeared on the Fifteenth day * of *November*, in the year of our Lord God One thousand five hundred seventy four. In which year, about the last day of *March*, the strange Star in *Cassiopeas* Chair, vanished and disappeared.

* *Seen in his*
Abridg. An.
1574.

II. *Dra*

II *Dracovolans*, or a *Flying Dragon*, called by some a *Fire-drake*, is a Fiery Exhalation, whose matter is thick, and, as it were, hard tempered together; or rather not so hard as conglutinously conjoynd; which lump, ascending to the Region of Cold, is forcibly beaten down or back again: By the force of which motion, it is set on fire; and not onely fired, but also bent, and violently made crooked. For (as hath been said) the matter of it hangeth so conglutinously together, that the repulse divides it not, but by a strange encounter moulds it into such a fashion as (seen afar off) looks much like * a Dragon. This is the opinion of the most. But some say, that it is done into this fashion between two Clouds of differing Natures, the one hot, the other cold; and so perhaps it is sometimes made.

Art. II.

Fire-drakes, or Flying Dragons.

* *Paracelsus* is perswaded, that it is a Fiery living Creature, bred in the Elements of the Fire,

even as Flies in the Air, Fish in the Water, and Worms in the Earth. Affirming, That it is of a short life, like the *Salamander* &c. But if this be not ridiculous, then nothing is.

12. *Ignis fatuus*, or *Foolish Fire*, (so called, not that it hurteth, but feareth or scareth fools) is a fat and oily Exhalation, hot and dry (as all Exhalations are, which are apt to be fired) and also heavy, in regard of the glutinous matter, whereof it consisteth: In which regard, the cold of the night beats it back again, when it striveth to ascend, through which strife and tossing, it is fired, (for in this encounter it suffereth an *Antiperistasis*) and being fired, it goeth to and fro, according to the motion of the Air in the silent night, by gentle gales, not going always directly upon one point, unless the wind be more than such a gale as is commonly called *Aura*: And note, that if the wind be any thing big or blowing, then this Meteor cannot appear at all, because the wind will disperse the matter of the Exhalation, not suffering it to be conjoynd.

Art. 13.

Foolish Fire, Jenny, or Will with a Whisp.

Moreover, some think that it may be kindled of it self, although it be not so moved as before: And this is performed by the active moving of the heat which is within it, as is seen in an heap of moist Hay, which will set it self on fire.

^a Taken there fore (but falsly) for the Souls of the departed. As you may see, if you look but a little further.

^b 2 Sam. 12. 23.

Job 7. 30.

Psal. 103. 15,
36. & 39. 15.

^c Eccles. 9. 5, 6.

These kinds of Lights are often seen in Fens and Moors, because there is always great store of unctuous matter fit for such purposes; as also, where Bloody Battels have been fought, and in a Church-yards or places of common burial, because the Carcasses have both fatted and fited the place for such kinde of oily Exhalations. Wherefore, the much terrified, ignorant, and superstitious people may see their own Errors, in that they have deemed these Lights to be walking Spirits; or (as the silly ones amongst the Papists believe) they can be nothing else, but the Souls of such as go to Purgatory, and the like. In all which, they are much deluded: For Souls departed ^b, cannot appear again. There is no such thing of ordinary course: *I shall go to him (saith David) but he shall not return to me. And (saith Job) he shall return no more to his house, neither shall his place know him any more.* Or (as it is in the Psalmist) *before I go hence, and be no more seen.* So that, if they walk, sure it is invisible, for (saith the Scripture) *They shall be no more seen.* But what need I urge that? For we see that they cannot at all return, but are ^c ignorant of all things done under the Sun; and as it was with Dives and Lazarus, so it is with every other. Wherefore we may well say thus,

^d Eccles. 9. 10.

Hos. 11. 14.

Joh. 17. 34.

^e Luk. 16. 22.

& 23. 43.

^f Joh. 1. 7, 9.

1. If after death, Souls can appear,
why then did Dives crave,
That one his Brethren word might bear
What pains the damned have?
2. Or if there be a another room,
in which is not Heav'n or Hell,
How scape's the ^e Beggar from the doom,
Of Purgatories Cell?
3. What shall become of Christs dear ^f Blood,
if after death there be
A way to make our own works good,
And place the Soul in gles?

Quest.

Quest. But if these Lights be not walking Spirits, Why is it that they lead Men out of their way?

Ans^r. They are no Spirits, and yet lead out of the way, because those who see them are amazed, and look so earnestly after them, that they forget their way; and then being once out, they wander to and fro, not knowing whither, sometimes to Waters, Pits, and other dangerous places; whereupon, the next day they will undoubtedly tell you strange tales (as one said) How they were led up and down by a light, which (in their judgment) was nothing else, but some Devil or Spirit in the likeness of Fire, which s^hould have hurt them. But of this enough: And know last of all, That if one be something near these Lights, and the night calm, then going from them, they will follow us, because there being no wind to hinder, we draw the Air after us; or going towards them they go from us, because we by our motion, drive the Air before us.

Moreover, When the like matter chanceth to be fired in some such part of the Air as is over the Sea, then these Lights appear to Marriners, and are called *Castor* and *Pollux*, if there be two at once: otherwise *Helena*, if there be but one. The reason of which names, was this, *Helena* was the Daughter of *Jupiter* and *Leda*, and by the Heathens she was taken for a goddess, but not for a goddess of good fortune: For this *Helena* was the cause of *Troy*'s destruction, & thus. She was stoln away by *Paris*, the Son of *Pr^{im}us*, King of the *Trojans*, stoln, I say, out of *Greece*: whereupon her two brothers, *Castor* and *Pollux* sail to seek her, but they were never heard of more, or seen after. Which loss of these Brethren, made it be supposed, that they were translated into the number of those gods, who use to give good success to Mariners, for they were lost at Sea; which is, as if they were translated from thence. Now then the Seamen having seen by often experience, That one Light was to them a sign of some Tempest, and that two Lights were a sign of fair weather; they called the

*Of Helena,
Castor and
Pollux.*

one

one light *Helena*, and the two lights they called *Caster* and *Pollux*.

Quest. But why should it be, may some demand, that they should thus appearing, shew either fair or foul weather? Can any Reason be shewn for it?

Why two
Lights at once
shew fair wea-
ther, and one
Light foul
weather.

Ans. It is answered, that one flame alone may be a sign of Tempest or Foul-weather; because, that as that matter which burneth, is so compact into one, that it cannot be dissolved into two: so in like manner, the matter of Tempest being exhaled, by the like cause is kept from being dissipated, and is so close together, that before any long time it must needs work.

And again, when two Lights appear, why then it should be fair, it is because there is not the like working in Nature which was before, but rather the contrary: For as this Exhalation of the Light is divided, so the Matter, which otherwise might be fit for Tempest, is not thickned, but by the like cause is also divided, scattered, and easily dissolved; insomuch, that it cannot work so, as at other times, when there is a working to compact, and not to dissipate.

Art. 13.
Licking
Lights.

13. *Ignis lambens*, is a Cleaving and Licking Fire or Light; and is so called, because it useth to cleave and stick to the Hairs of Men or Beasts, not hurting them, but rather (as it were) gently licking them. These Flames may be caused two ways, as the Learned write.

First, When clammy Exhalations are scattered abroad in the Air in small parts, and in the night are set on fire by an *Antiperistasis*; so that when any shall either ride or walk in such places as are apt to breed them, it is no wonder that they stick either on their Horses, or on themselves.

Secondly, They may be caused another way, viz. When the Bodies of Men or Beasts, being chafed, do send out a far and clammy sweat; which (according to the working of Nature in things of this kinde) is kindled, and appeareth like a flame. *Virgil* makes mention of such a fire as this, upon the Head of *Inlus*, the Son of *Enca*.

Ecc.

*Ecce levis summo de vertice visus Iuli
Fundere lumen apex, taetumque innoxia molli
Lambere flamma comas, & circum tempora passci.*

*Behold; the lively Crown of soft Iulus Head;
in it Light was circled round: A flame his Temples fed.
But toucht, not having hurt, nor feeling harm,
The Licking Fire his Hairs would scarcely warm.*

*Virg. Aeneid.
l. 2. prope finem.*

Livy also maketh mention of two others, upon whom the like Meteor appeareth: For *Servius Tullius*, when he was a child, even as he lay sleeping, had his Hair on his Head, as if it were, all on a fire. And upon the Head of *Marcius*, that worthy *Roman*, was the like appearance, even whilst he was making an Oration to his Soldiers. And I myself do also know one, who hath often protested to me, That as he lay in his Bed one night, his Head was all on a Flame; which hurt him not, although it greatly scared his wife and him, as I have heard them both confess. Moreover, others testify how they have been scared in their Beds by a kinde of Light sticking to their Coverings, like Dew upon the Nap of a Frieze-coat; which must needs be this *Ignis lambens*, caused by some kinde of clammy sweat proceeding from among them. For, that a clammy sweat will cause these things, is manifest in the nimble currying of a Foggy Horse; visible sparks appearing and coming from him, if it be done in the dark. But of these kinds of Fiery Meteors enough.

Sect. 2. Parag. 4.

Of such Fiery Meteors as are impurely mixt.

Art. 1.

Of Comets.

Why some
Fiery Meteors
are less pure
than others.

NOW follow those which are *ignita mixta*, and less pure; coming so to pass when the Exhalation, through the admixtion of some vapor, is more slimy, gross, and impure: For those Meteors already described, were merely Fumes without the admixture of Vapors, unless it might be some little in one of a glutinous nature or composition. Now these *ignita mixta* are usually divided into two sorts; for they are either such as continue long, or else such as are but for a little while.

What Comets
are.

Those that continue long, are Comets or Blazing-Stars. And a Comet is a Fiery Meteor, whose Matter is an Exhalation Hot and Dry, Fat and Clammy, drawn by vertue of the Heavenly Bodies, into the highest part of the Air (and sometimes into the Starry Region) where it is closely conglutinated into a great lump, by reason of supply to exhale it; and being thus compacted and exhaled, it is set on fire in convenient time by the excessive heat of the place where it resteth. Sometimes it continues burning long, sometimes but a little while; seven days is the least time, whereas some have been seen six moneths: All which cometh to pass, by reason either of the paucity, or plenty of the matter whereof it consisteth. That last Comet which was seen of us, viz. *Anno Domini* One thousand six hundred and eighteen, was perspicuous by the space of one moneth; namely, from the Eighteenth day of *November*, until the Sixteenth day of *December* next following: and was far above the highest Region of the Air, overlooking even the Moon her self, as *Longomontanus* proveth in a Book of his, where he treateth of new Stars, and such appearances as have been

been seen in the Heavens, since the year of our Lord God, 1572.

But in a Comet, two things especially, are considerable : The one, the colour ; the other, the fashion : Both which arise out of the diverse disposing of the matter.

Their colours are principally three. 1. If the matter be thin, then the colour is white. 2. If meanly thick, then the colour is ruddy, looking like fire. 3. If very thick, then the colour is like the burning of Brimstone, or of a blew appearance.

Three principal colours in a Comet.

Yet know, that they are not always exactly of these three colours without any difference, but as near them as the disposing of their matter will suffer ; as in stead of white we sometimes have them of a yellowish colour ; in stead of a blew, of a watchet or greenish colour, and so like.

Concerning their fashions (if we stand upon a curious examination of them) they may be manifold ; and yet, as *Aristotle* accounteth, they are principally but two, all their other shapes being dependant on these two. For first either they seem round, having Beams round about them ; which cometh to pass when the matter is thin on the edges, and thick every where else : Or secondly, they seem, as it were, with a Beard or Tail ; which cometh to pass, when it is but meanly thick towards some one side or other, and rather long than round. But some would have these two fashions to be three, because the Tail sometimes hangs downward as well as sidelong ; and so there is by this means *stella crinita* ; *stella caudata*, and *stella barbata* ; concerning which, I am not much solicitous.

Two chief fashions in a Comet.

That therefore which in these things I do much more wonder at, is the strange and admired multitude of effects which are produced by them ; as not onely change of Air, but change of Heirs also, proceeding from the disturbance of States, translation of Kingdoms, bloody Wars and Death of Potentates. Histories having carefully

The strange effects of Comets.

recorded these things, and left them to the consideration of after-times.

First therefore let it be observed, that when the Kingdom of the Macedonians came to an end, in the last year of *Perseus*, which was about the year 584 or 585. of the building of *Rome*, a * Comet appeared, as if it came to point out the last period of that Kingdom.

Secondly, When the Emperor *Jovian* attained to the Empire, succeeding the Apostate *Julian*, under whom the Church suffered much persecution; when (I say) the said *Jovian* was Emperor, and that under him, both Church and Common-wealth were like to have had a * flourishing time (had he not been taken away by sudden death) then also appeared a Comet, shewing that further trouble was yet to be expected.

Thirdly also, When a certain Captain of the *Goths*, an Arrian, named *Cajan*, had raised sedition against the Emperor *Arcadius*, God shewed by manifest wonders, that both *Arcadius*, and his City should be well protected: But before this tumult (saith *Caius*) a strange Comet was seen; great and terrible, casting flames down to the very Earth; the like whereunto no man had ever seen before.

4. And again, Other Authors make mention of a strange Comet seen in the year of Christ Four hundred and ten, being like unto a two-edged Sword which portended many mischiefs. For *Rome* was taken about the same time by *Alaricus*, King of the *Goths*. Sundry calamities hapned, both in the East and West; and so great slaughters of men were about those days, as no age ever afforded the like. All *Europe* was in a manner undone, no small part of *Asia* was affrighted, and *Africa* also was not void of those evils. War, Famine, Drought, and Pestilence, all of them strove (as it were) to trouble the whole World.

* Also in these years, viz. 1400, 1401, * 1402, 1403. Comets appeared, and great calamities followed; sundry and

* *Caius*, c. 2. Secunda, lib. 2.

a *Secus*, lib. 4, cap. 22;

b *Caius*, lib. 3.

c *Lib. 3. p. 294.*

* Of this Comet you may read in *Caius*, l. 5. p. 854.

and unheard-of Diseases were felt, Rivers dried up, and Plagues were increased. *Tamerlain*, King of the *Scythians* and *Parthians*, with an innumerable host invadeth *Asia*, calling himself the *WRATH OF GOD*, and *DESOLATION OF THE EARTH*; as did *Attila*, of whom it is written, that he named himself *THE SCOURGE OF GOD*.

6. Also in the year 1529. appeared ^a four Comets; and in the ^b year 1530, 1531, 1532, and 1533. were seen in each year one. (^c *Langnet* saith, That there were three within the space of two years) Upon which, these and the like changes and calamities followed, viz. A great sweating sickness in *England*, which took away whole Myriads of People. The ^d *Turk*, in the quarrel of *John Vauvoysa*, who laid claim to the Crown of *Hungary*, entred the said Kingdom with Two hundred and fifty thousand fighting Soldiers; committing against the Inhabitants thereof most harsh and unspeakable Murders, Rapes, Villanies, and Cruelties. A great Famine and Dearth was also in *Venice*, and the Countrey thereabout, which swept away many for lack of sustenance. The Sweating sickness ^e also vexed *Brabant*, and a great part of *Germany*, and especially the City *Antwerp*, where it consumed Five hundred persons in the space of three days. Great Wars concerning the Dukedom of *Milais*, between the Emperor *Charles* the Fifth, and *Francis* the French King. All *Lusitania* or *Portugal* was struck with an Earth-quake; inso much, that at *Vissippo* or *Lisbon*, a ^f Thousand and fifty Houses were thrown down, and Six hundred so shaken, that they were ready to fall, which made the people forsake the City, and run into the Fields: And as for their Churches, they lay upon the ground like heaps of Stones. Upon this followed a great Pestilence in those parts. But a little before, viz. In the year One thousand five hundred and thirty, was a great Deluge in *Brabant*, *Holland*, *Zealand*, and the Sea-coasts of *Flanders*; as also an over flowing of the River *Tyber* at *Rome*, occasioned by unseasonable Tempests of

^a *Ass. Chron.*
cometarium.

^b *Gottel. Phys.*
Langnet.

Chron. & in
Cont. in Chron.

Euseb.
^c So also a cer-

tain *German*
in the continu-

ation of *Euse-*
bii *Chroni-*

cle.
^d *Euseb. in*

his Chron.

^e *Idem* *vid.*

^f *In Lane.*

chron. it is

1400. *Vide*

Anno Dom.

1531.

Wind. Upon the neck of which troubles, the *Turk* comes again into *Hungary* and *Austria*; but he was beaten back, and a great company of his men slain and taken. Unto which may be added, how the Sect of the *Anabaptists*, not long after, brought new tumults into *Germany*.

7. And for that last Comet in the year One thousand six hundred and eighteen, saith a *German* Writer, *Prasagium ipsius jam est in manibus nostris*; meaning, that they felt by doleful experience the sad Events which followed after it.

Wherefore seeing these and the like accidents have been attendant upon the appearing of Comets, it may well be said, That although they have their causes in Nature, yet *Nunquam subtilibus excanduit ignibus aether*; the Skie never burnt with such fires in vain. For (as one saith) *Loquitur cum hominibus Deus, non modo lingua humana, per Prophetas, Apostolos, & Pastores; sed non nunquam etiam ipsis Elementis in formas & imagines diversae compositis*. That is, God speaketh with men, not onely with the tongues of Men, by Prophets, Apostles, and Teachers; but sometimes also by the very Elements, composed or wrought into divers forms and shapes. There being a Theological end of sending Comets, as also a Natural and Political end.

But first (before I come to that) I think it not amiss to speak something concerning these their events and accidents; namely, whether it can be shewed, why they should be wrought, either so or so.

To which it is answered, That in some sort we may give Reasons for this, and shew the causes of their significations. For being Comets, they consist of many hot and dry Exhalations; and hot and dry Exhalations do not onely stir up heat, dry and parch the Air, which may cause drought (especially, when much of the Earths fatness is drawn away with the Exhalation) and drought bring barrenness; but also the Bodies of Living Creatures, upon the distemper of the Air are mainly hurt, suffering detriment

a bellum Romanicum & Germanicum, quod utriusque affligit patriam nostram Germaniam. Atque, Circa. An. 1618. Dni. Fuit etiam accessus mortis Martiae Imperatricis.

Why Wars, Deaths, Famines, and the like, are the effects of Comets.

detriment in the consumption of their radical moisture, and suffocation, through the poysonous breathings which the Bellows of the Body suck in, and receive; insomuch, that there cannot but be Sickneses, Plagues, and much mortality.

Besides which, that they should usher in Wars, Seditions, changes of Kingdoms, and the like, may also proceed from the same cause: For when the Air is distemperately heated, then it is very apt so to disorder and dry up the Blood in Humane Bodies, that thereby great store of red and adust choler may be purchased; and this stirreth up to anger with the thought of many furious and violent actions, and so by consequent to War, and from War cometh Victory. from Victory proceedeth change of Common wealths, and Translations of Kingdoms, with change of Laws and Religion; for, *Nova Rex, nova Lex; New Lords, new Laws.* Unto which also may be added, that because great personages live more delicately than other men, and feed more daintily, having as many new fashions in their Dyets as in their Cloaths, for their Boards as for their Backs, that their Bodies therefore are more subject to Infection, and will take the poyson of an intemperate Air, before more temperate livers; whereupon necessity inforceth, that they dye sooner in such a calamity than other people, as he once witnessed that said, *Plures pereunt gula quam gladio.*

Besides, the death of great ones is more remarkable than when inferior persons die; so that if but some of them be taken away in common calamities, it is as if they were only aimed at; because they are obvious to every ones eye, as Cities standing upon Hills, which cannot be hid.

And now that our Bodies should follow the temperature of the Air, is nothing doubted, seeing every lame, aking or bruised joynt doth witness it, even to the very ignorant: But that our mindes and manners should follow the temperature of the Body, is more strange and wonderful.

See Pag. 113.

Our Bodies follow the temper of the Air; and our mindes do somewhat sympathize with our Bodies.

a Huron in his
Atlanabolly.

ib Chap. 7. sect.
3 parag. 2.
art. 1.

How to guess
at the signifi-
cation of Co-
mets.

wonderful. Yet true it is, that by the mediation of Humors and Spirits, as also through ill-disposed Organs, the minde also suffereth. For the Body is *Domicilium animæ*, the Souls House, abode and stay: So that as a Torch (saith a one) gives a better light, and a sweeter smell, according to the matter it is made of: in like manner doth our Soul perform all her actions, better or worse, as her Organs are disposed; or as Wine favors of the Cask where it is kept, so the Soul receives a tincture from the Body, through which it works. For the Understanding is so tied to, and captivated by his inferior Senses, that without their help he cannot exercise his Functions; and the Will being weakened so as she is, hath but a small power to restrain those outward parts, but suffers her self to be over-ruled by them; of which, I shall have occasion to speak more in the ^b Fourth days work, until when, I leave it; in the mean time adding, That Comets do not always, when they bring sicknesses, corrupt the Air through immoderate heat and dryness, but sometimes also through immoderate heat and moisture; as also by immoderate winds, which may bring the poyson of the Exhalation whereof the Comet consisted, unto some such place as lieth obvious unto it, and the like. Yea, and upon the raising of winds come often showers and rains, or else overflowings of Banks upon high Tides, and other lofty Waters, which are forced over upon the violence of the winds.

Astrologers say, That Comets do most hurt, either unto those places to which they are vertical, or unto those Countreys which are subject to the Sign wherein they are (for they maintain, that such and such Countreys are subject to such and such Signs;) but omitting part of that, they also tell us (which stands with good reason) that in the Earthy dry Signs, they produce barrenness, by reason of drought; in Waterish Signs barrenness also, by reason of too much wet; in Aairy Signs extraordinary wind; in Signs of a Fiery triplicity, extraordinary heat, wars, fires, drought,

drought, and the like ; and in all of these (seeing their operation is extraordinary) some one perilous and infectious sickness or other.

Besides, they also tell us, That if a Comet be in fashion like unto a Sword, it then signifieth Wars and Destruction of Cities, &c. If it be *stella crinita*, or blazing round about, and of divers colours ; then it signifieth wind, Seditions, Heresies, and the like ; but if it be blackish, with a short tail, and no hairs, then it is a sign of Barrenness, together with long and continued Wars.

But know now, that although these and the like accidents be produced by Comets ; yet if Comets should not be, the case would be far worse for mankind, and more readily would eager death seize upon him. For if that which is the matter of Comets were not taken into one place, and drawn, so as it is, up into the air ; it would kill us by being disperised about our dwellings ; such being the nature of poisonous fumes, as they by experience know who have seen the danger of Damps, whilst they plaid the part of Pioners under ground.

Wherefore let me add, That the end for which Comets are, is threefold : For either they appear for a Political end, for a Theological end, or for a Natural end.

In respect of a Political end, they are so to be taken for the Heraulds of future calamities, that men being forewarned may be fore-armed, and provided either to shun the threatened disaster, or else to endure with patience the common and inevitable misery.

In respect of a Theological end, they are either a sign of calamities, or else the efficient cause of calamities. If they be a sign, then their end is this, viz. That they may be Monitors, Instigators, and Admonishers to Repentances ; and to desire and expect, either the turning away, or mitigation of those publick punishments. But if they be the efficient causes of misery, then their Theological end is, that they are sent as the Instruments of punishing some such

a *origanum de effectibus*, pag. 526. ex Cardano.

The several ends of Comets.

Political.

Theological.

Natural.

a Witness the
great Plague
which was in
Portugal, An.
Dom. 1531.
occasioned by
vapors, which
through a
breach of
ground in an
Earthquake,
issued forth

such enormous malice, and contumacy of mankind, as would not be kept under, or restrained by any Humane Law or Discipline.

And lastly, In respect of a Natural end, which are those pestiferous Winds, Spirits, or Breathing, which are gathered from Metallick Liquors, and the like, in the Earth, should be taken up far into the Air from the common seat of Men, that thereby we may partake the less of their malice: For, being burnt out and consumed there, they can less hurt us, than if they were below. If they should remain in the Earth, they then (as they often do) would rend and shake it; or should they remain below in the near neighboring Air, they would poison us a sooner than above, because if the Air be infected, when they are on high, and a great way from us; much more would it be infected, should they be below, and round about us.

But of Comets, I have said enough. And now methinks I am led from them, to a consideration of such appearances as are called *New Stars*; such as were in the years 1572, 1596, 1600, 1602, 1604, and 1612.

and poisoned the Air. *Lang. Chron. b* After which, were these appearances, if not new Stars, yet most of them supralunary Comets; as in the year, 1577. which *Sybilla Baby-lonica* prophesied of (as may be seen in *Tycho*) shewing, That it should arise about four years after the vanishing of *Cassiopeas Star*, which was true inclusively. And in the years 1580, 1583, 1590, 1593. And in the year 1596. (but this was a new Star) and in the years 1607, and 1618,

Artic. 3.

Of new Stars, and especially of that which was in the constellation of Cassiopea, Anno Dom. 1572.

NOW here I must confess that I know not what to write : for how they are generated, or what they signifie, is a matter of most intricate question.

Noble Tycho, that *Phoenix* of Astronomy, and after him Longomontanus, with certain others, have been persuaded that they were more than Comets, and generated far otherwise, or of other matter than fiery Meteors are ; being first set a work so to think by the sight of that strange and admirable New Star which was seen in the constellation of *Cassiopea* ; seen from the ninth of November in the year 1572, until the last of March in the year 1574.

Which Star was indeed truly admirably, and (as I may say) attended with a sad event ; I mean that cunningly plotted Massacre of Protestants in France, at the solemnization of a marriage between Henry of Navarre chief of the Protestants party ; and Lady Margaret, sister to the French King Charles the ninth, then reigning, and chief Author of the foresaid Massacre : at which wedding there was not so much wine drunk as blood shed ; thirty thousand Protestants and upwards of the best and most potent, being sent through this Red Sea to the Land of CANAAN.

Or if the New Star were not attended with that particular accident, because the * Massacre was in August, and the Star appeared not until * two months after ; yet we may hope, that rising after such a butchery, and so soon after it as it did, that therefore it came to animate distressed Christians, shining at the first with a cheerful countenance, but at the last turning into a martial and bloody hue ; as if in so doing, he which sent

L

it

* Viz on Bartholomew-day. Calvis.

* Viz on the ninth of November.

it would have the world take notice that his righteous servants should see truths enemies (be they where or whom they will) confounded at last by material discipline ; and that those who had made havock of others should be trodden down at last themselves, although for a time they fairly bore it out.

But by what instruments the execution of these projects should be performed, we cannot tell. Yet this I verily think may be said, that those late, blessed, and admired proceedings of the prosperous and successful GUSTAVUS ADOLPHUS King of *Sweden*, whose manifold and sudden Conquests made him a spectacle to the astonished world, that those (I say) do point us to him above all men, as being the man appointed to shew the first effects of that strange Star, and that it was to have an operation far surpassing the saddest consequents of former threatening Comets.

To which purpose I find, that learned *Tycho* hath added a kind of propheticall conclusion to that book of his which he wrote concerning this New Star ; wherein he declareth (according to his modest and harmless rules of Art, proceeding in them not like a doting heathenish Star-gazer) that the effects were to be declared by * succeeding events ; which as they shall not begin (said he) until some years after the apparition, so they shall continue for a long time afterward. The beginning of the effect, or some part of it, was to fall out after the third septenary of years from the first appearing of the Star (as he also writeth) which was after one and twenty years ; about which time I plainly find that the foresaid * King was born : For the time of his birth falleth into the year 1594, which is the very next year after the one and twentieth year from the Stars first rising ; so that the year of his ~~exception~~ ^{appearance} falleth into the very one and twentieth year it self : or, if you account inclusively from the year of the Stars vanishing, unto the year of the King of *Sweden*s appearing, or entrance

* And therefore he could not then name any one in particular.

* The King of *Sweden* born at such a time as the Star began its operation.

trance into the World, then not his conception, but his birth, falleth into the said one and twentieth year. Which thing is also somewhat agreeable to *Tycho* his own meaning, where he telleth us (although he nameth no particular person) that those noble Heroes which shall happen to be born at the first rising of this star, are ordained to be the Authors and Achievers of such great mutations as should then be; when the men ordained for them came to be fit, and of ripe age to work them. Thus he: the difference between us being, that he applieth it to the birth of such eminent men as were to be born when the star first appeared; and I to that time when (according to his conjectures) the operation of it first began: which, albeit he casteth it into the year 1592, must not be until the year after, being the one and twentieth year from the Stars first rising, and the very year of the King of *Swedens* conception: For he was born on the last day of *November* in the year 1594, being also (as hath been said, both terms included) the very one and twentieth year from the stars first vanishing.

Neither doth the time of his birth fall out thus fitly, but the place likewise, which was to be the ominous nest concerning the occasion, or bringing forth of one, for the Author or beginning of the intended alterations, is pointed at by the Heavens to be such a place as hath for its latitude about 62 degrees from the Equator north-wards; for in that parallel the star moved day by day, and was vertical once every day to *Norvegia*, *swedia*, *Finlandia*, *Livonia*, *Moscovy*, and *Tartary*, with all such places as lie under the same parallel.

Now though the star in his daily motion was in this manner vertical to more places successively than to the King of *Swedens* Dominions; yet at the time of the next new Moon (which *Tycho* maketh a rule concerning the place, from whence either the occasion, or authors of the great changes should proceed) it was just

The place pointed at by the heavens hath 62 degrees of North latitude.

over the Meridian of *Finland*, being vertical to that Country: And who but the foresaid GUSTAVUS ADOLPHUS King of *Sweden* hath the country of *Finland* as a part of his Dominions? For he is not onely King of the *Swedes, Goths, and Vandals*: but also great Prince of *Finland*.

Tycho, I confess, doth not directly name the country of *Finland*, but chose rather to express the place by calling it *Moscovia*, or *Russia*, bordering upon *Finland*: wherein I find (according to the observations of a learned and great Divine) that he was something mistaken. For in a Book lately set forth, and intituled *The New star of the North*, the said Author, having made some observations from *Tycho's* writing concerning that Star, and applied them unto these times, doth manifestly prove, that it ought rather to be *Finland* bordering upon *Russia*, than *Russia* or *Moscovia* upon *Finland*: withal, amongst other reasons which should make *Tycho* choose that place, rendring this for one, that perhaps he was loth to bring the prediction too near home, seeing there often happened divers distastes and quarrels between his Sovereign the King of *Denmark*, and the neighbouring King of *Sweden*: Which, upon this ground may the better be granted, viz. because *Tycho* was once faine to hide his head for denoting in too direct terms a prediction too near his own home, although it afterwards proved true. But I refer you to the book, and proceed.

And now we shall see, that not onely the time of his birth and place pointed at by the heavens, but the chief time also when the Stars influence should be most perceived, doth point at him. For *Tycho* witnesseth that about the year 1631 (if not also a few years after) the choicest force and influence of this strange Star should shew it self, the greatest significations depending upon the Trigonal revolution and transmutation of the Planets:

nets : which force and influence, why he referreth it to those times, I leave to the admired perfection of his art, wherein he was a kind of *Phoenix*, and scarce hath left his parallel. For will you hear King JAMES of blessed memory, and our late learned Sovereign speak for him? his commendations then will surely be no less. For in certain verses (as being able to judge both of him and his Treatises) he approves his labours, and commends his skill as superexcellent. The like also he doth in an Epistle which he wrote unto him : some of which verses, as I find them Englished, are to this effect,

*Great Tycho's labours also do fore-shew
Events, which shall befall on earth below;
And by disastrous or fair aspects,
It hat destimes on Kingdoms God directs.*

Now then, if the chief effects shall demonstrate themselves about the year 1632, questionless the King of Sweden must not be baulked in his late proceedings, but taken as a prime man upon whom the beams of this New Star hath shined : for his great famous victories, and never enough admired conquests in *Germany* (that *sedes belli*) atchieved in so short a time, have witnessed as much. Nay, when I hear himself speak to his Souldiers, and those Citizens where he conquered, I am confirmed. For speaking to the men of *Norimberg*, thus he saith : Truly God hath marvellously preserved you, as he hath also pleased to call me to this work. For I had rather thought that the last day of judgement should come, than that I should come into *Norimberg*, and (as you said your selves) leave so far behind me mine own Dominions, good subjects, and what else there is loving and dear unto me; and to bring along with me so many brave Worthies, to expose their lives (as I do mine own) for the restitution, safety, and preservation of the common Evangelical cause and liberty of *Germany*. And again, to those of his Court be
fore

fore Ingolstadt, amongst other things, he addeth this : Know (saith he) that the good success, which is both pleased God to afford me in my enterprises, hath made some to be envious, who labour to persuade the simple that I endeavour nothing more than mine own gain, and the robbing and spoiling of others. But I call to witness in this case the Princes who were thus spoiled, which I have again established in their own right and Estates; as also the Creditors of whom I have borrowed such extraordinary sums of money, both at Frankford and elsewhere, and the dangers which I do daily expose my self unto: I call all these to witness, whether I have left mine own Kingdom, and the dearest I have in the World, to any other end, and with other intention, but onely to destroy the tyranny of the house of Austria, and to obtain a profound and settled peace unto all.

These words of his shew nothing less, than that he was extraordinarily set on work to undergo such fortunes as the eyes of all the World have bravely seen him struggle with: and God knows who shall end that which his coming into Germany hath begun. It was his own saying, that if he himself should not survive so long as to bring to pass so great a work, that then in his stead some other might succeed and go on, until a full point and period were put unto the War. For upon the occasion of his deliverance from a Cannon shot, he utters these words; saying, that he was not onely mortal, but subject also unto the very same accidents that the poorest and meanest Souldier is subject unto. It is a general Law, (saith he) * from which my Crown, my birth, my Victories are not able to rescue and exempt me. There remaineth nothing else therefore, but that I must resign my self to the Providence of the Almighty, who (if it please him to call me out of this World) will nevertheless not abandon and leave a cause so just as that which I have undertaken; but will doubtless raise up some other, more wise, more courageous and valiant than my self, who shall put a period to this war.

* In a speech
to his Court
at Ingolstadt.

And

And again, it was but three dayes before his death, that at *Naumburgh* he uttered these words; *Our affairs* (*saith he) *answer our desires; but I doubt God will punish me for the folly of the People, who attribute too much unto me, and esteeme me as it were their God: and therefore he will make them shortly know, and see I am but a man. He be my witness it is a thing tastelesse unto me: And what ever befall me, I shall receive it as proceeding from his divine will. Only in this I rest fully satisfied that he will not leave this great enterprise of mine imperfect.*

* Taken out of the relation of his last battle, p. 20 translated out of French into English.

A Memento for after-times.

*Great King of Heav'n, in arms transcending fame!
Eternal praise shall blazon forth thy name.*

Soul of thy friends thou wert;

But terror scourge of foes.

Canst thou then die, though death

Thine eyes in sight may close?

*No no: For times unborn shall yet repeat
What deeds were done by thee a King so great.*

And this doth also raise thy just renown,

That in thy fall thine enemies fell down.

Thine was that day: thy Men undaunted fought

Until their Foes the field were driven out:

For as it were from forth their Kings last blood

The Palm and Bay sprung up, and conquering stood.

Great deeds thou diddest soon: hot Mars his sphere

In Germany thee mov'd a double year:

From whence at last above the spheres he caught thee,

And to a place of peace eternal brought thee:

where thou shalt rest, how e're the rest proceed

with those fierce wars which heav'n hath thus decreed.

But let me now return again to this New Star, and shew you that in the dayes of *Hipparchus*, * who lived towards the end of the Grecian Monarchy, there appeared one much like it: and so * *Pliny* telleth us. But since that time we read of no other untill this in the year

* He flourished 135 years before Christ's birth.

Metu. Chronol. in Lib. 2.

* See more in
Aquinas sum.

* Some say the
87 degree Cal-
wis. Chron.

* Anno 1638.
was one in the
Whale.

A considerati-
on of this new
stars matter.

* Lib. de nova
Stella.

year 1572. excepting that which appeared at our Saviours Birth, which indeed was no such Star: for it had three properties * never seen in any else; moving first from the North to the South: secondly, it was seated in the lowest Region of the air; thirdly, it was nothing hindered by the light of the Sun, &c. Yet in later times, following the said year 1572, some smaller ones have been: as in the year 1596 this was seated in the *hale*. And in the year 1600, or thereabouts, another was seen in the constellation of *Cygnus*. *Kepler* makes mention of one in the year 1602, in the constellation of *Pisces*; soon after which, upon the death of Queen *Elizabeth*, and coming in of King *James*, was that great plague at *London*. Some say, that *Andromeda's* girdle and the constellation of *Antionus* afforded each of them one, in the year 1612. But the year 1604 must not be forgotten: for in the * 16 degree and 40 minute of *Sagittarius* toward the Southwest a remarkable one appeared, having 2 degrees 15 minutes of North latitude, and was seated in the constellation of *Ophiuchus*: this at the first shined as bright as *Venus*; and in the very next year that damnable Powder Plot of the Papists was discovered.

But now, though these and * more were reckoned up, yet that in *Cassiopea* would be the chief, the elder brother, and Captain of them all; because both in height, bigness, and lustre, they were less remarkable.

Tycho, upon the sight of this New Star, laboureth to prove that the Heavens, and not the Earth, afford matter to such as these are; thinking that it differeth not from the matter of other Stars, unless in this, viz. that it is not exalted to such a perfection and solid composition of the parts as in the first continuing and created stars; the main and principal reason being taken from the magnitude of them together with their extraordinary height. As for example; * *Tycho* affirmeth

eth concerning the New Star in *Cassiopea* (being as it were the elder brother of all the other after it) that it was 300 times * bigger than the earth. Which being so, it is with small probability affirmed that it should have matter from that which is so much less than it: and indeed a thing impossible. The heavens are large enough to afford matter, although the earth be not: and no part of the heaven can be imagined to be more fit for such a purpose than the *via lactea*, or *milkie way*; for that place alwayes shewes it self, even to the eye, so as if there were much indigested matter in it, reserved only to work such wonders.

Yet nevertheless I suppose it may be also granted, that an earthly Exhalation may have recourse sometimes unto the battlements of heaven, and in some sort and in part concur towards the composition of the New Stars (as they are called): and of such Comets as have been above the Moon. What should we think of that last, in the year 1618: it * was (as I have already said) amongst the wandering Stars themselves, and yet it was no other than such a Star as we call a Comet or a Blazing Star. Now then, if they had matter from the earth, and spent it amongst the Planets, rather than below the Moon; why might not those which we call New Stars obtain the like freedom to have the like matter ascend a little higher? What should hinder this conjecture I do not easily see: for questionless the same matter remains still in the stars to exhale the matter as well after it comes into the highest Region of the air, as before it came there; neither need we then imagine an abatement of their exhaling virtue.

Object. 1. But perhaps it may be thought that the nature of the place above the Moon doth sufficiently deny the ascent of any terrene Exhalation so high: there being too great a difference between the one and the other; between the matter ascending, and the matter of that place whither it ascendeth.

* Yet the same matter had it been cruddled together, or as solidly composed as the earth, would have been as nothing in respect of the earth.

* *Longomont. de novis cæli Phenom.*

Ans. To which I may partly answer as before, in the 4. Chapter and 3. Section, that seeing the out-spread Firmament in the Creation was taken from that mass of matter which lay here below, and separated from it rather than created of any newer matter, that therefore (I say) there cannot be so great a difference as to bring in such an antipathy as will not at all suffer any terrene Exhalation to scale those *flammantis munitia mundi*, or battlements of heaven; but rather, that without reluctancy, or any great striving, the one may admit of the other, and entertain it as a guest near of kin unto it self, or unto the nature of that place where the continuing Stars have ever had their residence.

From the earth to the highest Firmament is nothing but air.

For, if I urge it further, it may well be proved even by optical demonstration, that the great vast space from the earth, as high as the fixed stars themselves, is not of a diverse nature from the air; for if it were, then there would be a Multitude of Mediums between the sight and the thing visible: but there is no multitude of Mediums: For where there is a multitude of Mediums, there the beams which come to the sight from the thing visible would beget a multiplicity of refraction in the said rayes or beams; but it is manifest that there is onely one rarefaction found in the beams of the stars, and that but onely when they are near the edge of the Horizon, which time the ascending vapours are between our sight and them: And therefore there is but one kind of Medium by which the stars offer themselves to our sight: And being but one Medium, there cannot be such diversity of natures between the Heavens and things compounded of the Elements. Whereupon it may be concluded, that an Exhalation may ascend into the territories of the starry Heaven, and so by consequent have a natural concurrence with such matter as the Heavens do naturally afford towards the generating
of

of supralunary Comets, or new-admired Stars.

Indeed I must confess that were I of *Pythagoras* his opinion, I then would cry out with *Audite* in the * Comedy—*Heark, heark, list, list now, &c.* What, are you deaf? do not you perceive the wondrous sound and the celestial musick the heavenly orbs do make with their continual motion? Or I could imagine firm spheres or solid orbs, and so set an undoubted stoppage, and hinder the passage of any Meteor above the Moon: But seeing that tenet is made the fit subject of laughter, I therefore pass it over.

Object, a. But may not the Element of fire stand in the way, and so consume such matter as ascendeth, before it come beyond the Moon?

Ans. To which it is answered, that the chief cause why Men have been perswaded to think that Fire is generated immediately under * the spheres, and that within the concave of the Moons orb, the said Fire, as it is there generated, hath there its place of residence, is for no other reason but because of an imagined attrition of the spheres and orbs: Which seeing they are taken away, and that all is filled with Air, the Elementary fire is not hindred from ascending, but may have a more lofty station. For questionless, this kind of fire, as it is not visible to the sight, so neither may it be thought any other thing than the more subtil light, and hot part of the Air; in which regard it must needs be both in and of that part, which is nearest to the highest Heavens: For both the motion of the Heavens is there most swift; and also, there is the greatest neighbourhood to that infinite number of stars fixed in the Heavens.

An earthly Exhalation may therefore climb above the Moon, and yet not run through a fiery Purgatory, or be consumed by the way.

Mr. *Lydias* our country man, his opinion is, that if we consider of this Element, not as it is absolutely pure,

M 1

then

* Called *Lingua*.

* *In concavo Luna generatur ignis.*

What place the Element of Fire possesseth.

then the greatest part of it is in the stars (of which see more of the fourth dayes work) and some also is under ground, as being there a great cause of generating metals ; occasioning the burning and breaking out of sundry sulphurous hills, and the like.

But of this enough. And in the consideration of it, I have made way (you see) for the admittance of terrene Exhalations to joyn their forces towards the effecting of supralunary Comets, or new and strange admired stars. This, I say, I have proved as a thing both possible, and not unlike. But that they do always therefore thus concur, I am not uncertain ; neither will I stand curiously to decide it.

Let therefore learned *Tycho* his tenent go for currant concerning *Cassiopea's* star that the Heavens onely were the material parents of it, and especially the *Galaxia*, or white milky way : unto the edge of which place (whilst it appeared) it was situated, and continued visible in the same, for the space of 19 months, or thereabouts.

And thus I conclude, adding herewithal concerning other Comets whose station hath been supralunary, and time of continuance any thing long, that if in them there could be any right to challenge a portion out of the same storehouse, then questionless they were tyed to rest beholding both to the Heavens, and also to the earth, for the matter of their composure. But for ordinary Comets the case must needs be otherwise, seeing their place and small continuing time confirm it.

These things for mine own part I think more probable than if I should affirm that the Planets afforded certain Exhalations, which by force of the Sun are expired and exhaled from them, and being exhaled are made the matter of all kind of Comets above the Moon ; yea and New Stars also (as some affirm) consist of no other causes : wherein they dissent from *Tycho*, thinking (contrary to him) that the *Galaxia* affords no matter toward the

the compoſure of theſe appearances. For (as ^{* Fromm-}*dmus* a late writer, affirmeth) *Simon Marinus* beheld a new ſtar in the year 1612, in *Andromeda's* girdle; and one *Juſtus Prigius* beheld another in the conſtellation of *Antoniui*; *Kepler*, in the year 1602, ſaw one in the conſtellation of *Piſces*; and *David Fabricius*, in the year 1596, ſaw another in the *VVale*; all of them far enough diſtant from the *Galaxia* or milky way.

* *Lib. 3. Met.*
c. 2. *Art. 7.*

But ſuppoſe all this: muſt the continuing ſtars therefore needs be forced to waſt their own bodies, and ſpend themſelves in teeming ſuch ample portions of matter as are required for glittering Comets, or New ſtrange ſhining ſtars? Surely if they ſhould ſuffer their bodies to be thus exhale, they could not chooſe but fall into a deep conſumption, and be viſibly diſproportioned in their ſhapes and figures; far otherwiſe than we ſee them: For it is a long time ſince the world began, and no few Comets have had their ſeats above the Moon, where they all cry out againſt an opinion ſo improbable, ſhewing that the changes would be ſuch as would be apparent and viſible enough to every vulgar eye.

Besides, it cannot but be granted, that for ordinary Meteors every Star and Planet hath an exhaling virtue as well as the Sun: why therefore ſhould they now deſiſt and leave it all to him, who, if he may have this liberty, will at the laſt ſuck them all to nothing? Theſe men may well imagine (as they do) mountains in the Moon, with Woods and Croves, Seas and Rivers; and make every Planet another World: but yet 'twere good they knew that God made all but one; although the parts be two; and that *Adam* being caſt out of *Paradiſe* was ſent to till the ground and labour the earth; which he ſought, not with the Man in the Moon; for he knew that that was not to bud forth with fruit, bear trees, and the like, becauſe it had another office. For let the Earth (ſaith the Almighty) bring forth graſs, herb, fruit, trees, &c. but let

let there be lights in the Firmament, the greater light to rule the day, and the lesser to rule the night.

Also, if the Sun should work thus among the Stars, and that there should be vapours exhaled from their bodies, how comes it to pass that we perceive no clouds in the Ethereal vault, and that we cannot see them glide between Star and Star, flying upon the wings of such winds as must necessarily upon the admittance of this tenet be generated there? Perhaps they will answer that these things may be, and we not see them, by reason of the great distance between us and them. Well, be it so; yet know, that although we could not see them, we should sometimes feel them, and perceive our mother earth to be watered with showers of rain, when we see nothing but a clear skie over us. But it may be they again will answer, that the Stars do not frequently afford such Vapours and Exhalations, but sometimes only: and then, if they be not copious enough to make such a cloud as may shine like a Comet or blazing Star, they are rather dispersed into nothing, than returned into rain: for their matter is too Hot and Dry to make a rainy cloud. In good time. The Stars do not frequently afford such Exhalations; and why so I pray? Surely the Sun is never far distant from some one Planet or other, but that he would make this his operation appear, if he had at all any such working, or power of exhaling matter from them; and, if not watery, yet a Dry cloud might be visible. The Stars surely are of such a nature that they be rather fed and nourished by vapours, than compelled to an unwilling waisting caused by an exhaling vertue, which is improperly given onely to the Sun, because onely to him: and from whence these vapours come, which upon all likelihood do continually nourish the Stars, shall be shewed in the fourth dayes work.

Neither do some exempt the Sun from these evaporations, but affirm that day and night he also expireth vapours

vapours from him: which others again deny, because they imagine that this publick lump of the world ought to be more immortal, lest being extinct, he should be quite without light, and afford the world nothing but black and dismal darkness.

That therefore which I before affirmed, joyning in part with *Tycho*, who fetcheth matter from the *Galaxia*, seems to me far more probable concerning the generation of these appearances. For first, the *Galaxia* doth sensibly appear as if it were an ample storehouse, and had large portions of the matter, reserved onely for such purposes: which, when there is a working in nature apt and convenient to produce it, is liberally afforded, and sent thither where the most power is to attract it. And secondly, that an earthy Exhalation may sometimes be admitted to joyn with the abovesaid matter, it seems to me a reason, because, like other low and ordinary Meteors, these also shew themselves or first begin to shine in the Autumnal season, and not in the Spring, Summer, or Winter-Quarter.

Artic. 3. *Of Thunder and Lightning.*

NOW it followeth that I speak of such fiery mixt Meteors as are of less continuance than Comets or blazing Stars: and by their general names they are called Thunder, and Lightnings.

Concerning the first, which is Thunder, it is not properly any kind of Meteor, but rather an adjunct or depending effect.

For Thunder is nothing else but a sound heard out of a thick or close compacted cloud: which sound is * procured by reason of Hot and Dry Exhalations shut within the cloud, which, seeking to get out, with great violence do knock and rend the cloud; from whence proceeds that rumbling noise which we call Thunder. For when an Exhalation which is more hot than ordinary, meets

What thunder is.

* *Joannes Bodinus putat a genio atris & demonibus semper fulmina jaci, & multum illum caeli cieri.*

meets with cold and moist vapours in the middle Region of the air, and are inclosed all together in an hollow cloud, it cannot but be that they fall at variance; and by this strife being driven together, the Exhalation is made stronger: and either by the motion, or by an *Antipristasis*, it is set on fire; which violently breaking the clouds whilst it seeks for liberty, gives an horrid sound. A similitude may be taken from a Chest-nut, Apple, or Egge breaking in the fire; or from the cracking of moist Wood, or any such like thing: for this is apparent, that when any inclosed hot wind is holden and withholden so as it can have no vent, it will then seek it self a way by breaking the skin, shell, or case; and in the breaking, seeing it is with violence, it must of necessity make a noise. And thus it is in Thunder.

But observe that in Thunder the noise made is not always of a like sound: for in respect of the hollownes, thickness, or thinness of the cloud, and small or great force of the Exhalation, the sound is altered.

Great cracks.

A great crack is caused when the cloud is very hollow, his sides thick, and the Exhalation very dry and copious: which if it break the cloud all at once, then it maketh a short and terrible crack, much like the sound of a Gun. If it rend the cloud all along, breaking out by leisure, then it makes a noise like to the rending of broad cloth, or the rading of stones out of a cart.

Small cracks.

A small crack is caused when either the cloud or Exhalation is but weak; or the cloud strong, and the Exhalation of some little quantity. And in small thunders it sometimes falleth out that when the sides of the cloud are stronger than the force of the Exhalation is able to break, that then it runneth up and down within, and striking against the cold and moist sides, maketh a noise much like to the quenching of a hot iron in cold water, or of a squib made of wet powder: in which regard *Pliny* seemeth to aver that Thunder is but the quenching of fire in a wet cloud. Also if the Exhalation be meanly strong

strong, and the cloud of unequal thickness, then it breaketh out at the thinnest places, and makes a kind of buzzing noise like to a wind blowing out of narrow holes.

And so sometimes it happeneth that there may be a thunder crack and yet no lightning; and sometimes lightning without thunder.

The first is caused thus; either when the cloud is so thin that it cannot keep in the Exhalation till it be kindled, but suffereth it to go presently forth, making a noise like to the wind out of a pair of Smiths bellows: or else when the cloud is so thick, and the Exhalation so slender and thin, that although it stir up and down within the cloud, yet it fireth not, but wafts it self within that prison, as not being able to get out. And thus may thunder be without lightning.

The second is caused, when either the Exhalation and Vapour are both thin, and the cloud also as thin: or else thus, namely, when many thin, light, and hot Exhalations by immoderate heat are drawn up from the earth, and by the absence of the Sun are destitute of that force by which they should be drawn up higher; yet somewhat ascending by their own nature, (in that they be light and hot) they meet with the cold, either of the night in the lowest Region, or else of the air in the middle Region; and so by an *Antiperistasis*, or resistance of contraries, they are beaten back, and with the force of their motion set on fire, as in summer nights and evenings we often see after an hot parching day. Now this kind of lightning some call *Fulgurum*.

Another sort they call *Coruscatio*; which indeed is nothing else but the shining of the lightning: the shining or glittering of it rather than the lightning it self: for in this regard we can perceive a flashing when there be no clouds above our *Horizon*; or if there be clouds, we see the flashing when our backs are turned from them; or else we often perceive even through a thick cloud that it

Sometimes
thunder and
no lightning;
sometimes
lightning and
no thunder.

How there
may be light-
ning without
thunder.

The kinds of
lightning.

lightened, when the lightning came not so low, but only issued out of a thinner cloud which was above that thicker one, and shined through it.

Why we see
the lightning,
before we hear
the thunder.

A third kind is called *Fulgur* : and this is accompanied with thunder, caused by the strife and reluctation which the Exhalation maketh in the cloud, shewing it self in the breaking of the said cloud ; and although the crack be heard long after we have seen the fire, yet they come together ; the seeming difference being, because the quickness of our sight preventeth our hearing ; which is so much the sooner done, either when the thunder is far off and not near unto us, or when the wind is contrary ; which is also seen in the cleaving of wood, or any the like knocking ; for let us be but in some sort distant from the party making the noise or striking the blow, and we shall see the ax heaved up again before we hear the sound.

The work
kind of light-
ning.

The next is *Fulmen* ; and between this and the other is a great difference : For *Fulmen* is an Exhalation which in respect of its quantity is so copious, and in respect of its quality is so hot and dry, and mixed with so many other vapours of a contrary nature, that when it breaketh the cloud wherein it is inclosed, it comes with such a violence, and continues burning so long, that it falleth even to the very ground, making a more fearful *fragor* or crack than ordinary : And oftentimes a great stone is blown out of the cloud with it ; whose cause is also natural. For when the Exhalation is drawn up with more than an ordinary violence ; or is so drawn up, or from such a place as it may carry much earthy matter with it, then is the stone procured. The matter causing it at the first is thin, and like unto the finest sand that can be imagined ; yet nevertheless through the moisture which it getteth in the Air, and by the meeting with wet vapours in the ascent, it clattereth together, and being also it self of a kind of clammy nature, it disjoyneth not, but sticketh fast : and then by the excessive heat which it findeth

The making
of the thunder
stone.

findeth in the general matter of the Exhalation when it is fired, it is thoroughly hardned, even as a brick which is burned in the fire: and being * thus hardned and burnt, it breaketh forth with the Exhalation, and they both come tumbling down together. For the force of the Exhalation shoots it out, and look whatsoever is in the way, it overthroweth, burneth and dasheth in pieces. Howbeit, when it striketh the earth it is reported to go never above five foot deep

All this is pertinent to that which is called *Fulmen*. But for that other, which is *Fulgur*, the case is far otherwise. For in regard of the plenty of the matter it never falleth to the ground, but is wasted and consumed by the way.

Moreover, Philosophers make three kinds of *Fulmen*; viz. *Terebrans*, *Discutiens*, and *arens*: or (as some call them) *Scindentia*, *Insufcantia* and *Urentia*

1. The first is said not to burn, but rather to pierce, cleave, and extirpate such things as are obvious to it. For seeing it is more subtil and pure than gross, as also wondrous dry, and carrieth with it great plenty of spirits, wind, or breathings it must needs produce strange effects, and pass through the pores of any thing be they never so small; striking through with such wonderful swiftness, as that it cannot possibly hurt, but where it is resisted and hindred by the close compofure of that matter against which it striketh. And hereupon it comes to pass that money is sometimes melted in the purse, and the purse not hurt at all; the bones broke, and the skin sound: yea and sometimes the whole man burnt to ashes when his clothes are not consumed, with many the like strange accidents. And why it should cleave a wine vessel and the wine is so dull as not to run out until some 2 or 3 dayes after: This may be a reason, viz. in regard of the swift alteration and change, whereby also all the clamminess of the wine is drawn to the outwardmost part,

* Orthus; Generatur ex exhalatione terrevis viscosa, & humore nubes, quos ardor fulminis celerissima transmutatione in ipsorum casu (nam grave ibi suspendi aut hærere non potest) permiscet. & in lateram cognita Fræmond. lib. 2. Meteorolog. Artic 7 cap. 1. Three kinds of Fulmen. The first kind is dry of quality.

The second kind is something moist.

The third kind is most gross of the three,

* *Plin. lib. 2. cap. 55.*

* The Poets therefore write that the carries *Jupiter's* armour, which is lightning.

which keepeth in the wine as in a skin, not suffering it suddenly to disperse it self.

2. The second kind burneth not to ashes, but blasteth or scorcheth, leaving the tincture of fire, and as it were of smoak behind it; for the things which it striketh do use to look black, or of a sooty colour, like unto a chimneys stock. And this is caused in regard that this kind of lightning is far more full of moisture than the other; and yet in a manner as subtil, swift and pure: otherwise it would not blast but burn.

3. The third kind is *Fulmen urens*; and this is *magis igneum quam flammicum*, more fiery than flamy; being of a gross and earthy substance, having much slimy matter in it: which makes it therefore set such things on fire as are combustible, whensoever it meeteth with them.

And yet there are some things which (as * it is said) the lightning hurteth not. As for example, The * Eagle, *Jove's* bird, is free. The Laurel is not hurt; neither can the earth be wounded any more than five foot deep. Such places also as are covered with the skins of Seals, or Seacalves, are secure: wherefore of old time the Tents of the Emperors were covered with them for their better safety. *Suetonius* telleth us a story of the Emperor *Caligula*, how he was scared with Thunder; who, although he bragged and boasted of himself that he was a god, and threatned war with *Jupiter* for a shower of rain that fell against his mind, was nevertheless by and by so terrified with thunder and lightning, that he thereupon runs and hides his head under a bed.

Moreover it is said, that if lightning kill one in his sleep, it openeth his eyes; if it kill one whilest he is awake, it shutteth them. The reason being because it waketh him that sleepeth, and killeth him before he can shut his eyes again: and him that waketh it so amazeth, that winking he dieth before he can open thoe eyes of his which the sudden flash of the lightning cause him to close.

And

And know that it is not good to stand gazing upon the lightning at any time ; for when it doth no other hurt, if it be any thing near us, it may dry up, or so waste the ChrySTALLINE humour of the eyes that it perith the sight ; or it may swell the face ; making it to break out with scabs or leprosie. caused by a kind of poyson in the Exhalation which the pores of the face and eyes admit and receive. For this is certain that the matter of lightning, seeing it cometh from sulphurous and other poysonous metallick substances, is much infected, and therefore hurteth where it entreteth.

Not wholsom
to gaze on the
lightning.

Sect. 2. Parag. 5.

Of such Meteors, as are fiery only in appearance.

Artic. 1.

The Galaxia is no Meteor.

AND thus have I done with all those kind of Meteors which are fiery in very deed, whether pure or mixt.

Now it followeth that I speak of such as are fiery only in appearance ; not being such as they seem to be, but rather seeming more than they are

Some account eight of them, and make the *Galaxia* or milky way to be one. But that last may rather be left out: For although *Aristotle* would have the *Galaxia* to be a Meteor, yet his opinion is worthily misliked of most men, and that not without good reason.

For if it were a Meteor, and of the nature of the Elements, as Exhalations are, it would be at the length consumed like to other Meteors - but this circle never corrupteth nor deceaseth, and therefore it is no sublunary concretion attracted and formed out of the stars which are above it, and placed by their power in the highest part of the air.

More

Moreover, if this his tenet were true, why hath it continued (the *Galaxia* I mean) in the same form, place, and magnitude always from the beginning of the World until now? And besides, other stars might also attain to the like luminous concretion as well as those which he imagined to be over it.

And moreover, this milky way of *Aristotle* would admit of a Parallax, were it so as he perswadeth: and according to the optical consideration (saith noble *Tycho*) by the thinning of the fixed stars through it, would beget a strange refraction, differing far from that which is occasioned by the vapours that are seen about the Horizon. For they seldom rise to the twentieth degree of altitude; whereas this proceeding from the *Via lactea*, would reach to the greatest height.

What the *Galaxia* is.

Wherefore we may say that it is rather of the nature of the Heaven, or a certain heavenly substance, but somewhat thicker than the other parts of Heaven: or (if you will) much like to the matter of the Stars, or to the substance of the Moon; but diffused and spread abroad, and not conglobated into one body as the Stars are. For although all be filled with air from the earth to the fixed stars, yet there the matter may begin to be more thick, firm, and solid, and so the waters above the heavens are the better upheld.

For conclusion therefore, not reckning this amongst any of these Meteors fiery only in appearance, I may account them in number seven.

As thus: 1. *The colours of clouds.*

2. *Many Suns.*

3. *Many Moons.*

4. *Beams of Light.*

5. *Crowns or Circles about the Sun or Moon.*

6. *The Rain-bow.*

7. *Chaps or openings in the sky.*

Con-

Concerning all which in general, although they seem to burn, yet they do not, but are caused by refraction and reflection of light, either from the Sun or Moon, or brightest Planets.

Artic. 2.

Of colours in the Clouds.

AND particularly for the appearance of colour in the clouds, it ariseth not from the mixture of the four qualities, as it doth in bodies perfectly mixt, as herbs, stones, &c. but only from the falling of light upon shadow or darkness; the light being instead of white, and the shadow of darkness instead of black. Not that they are always perfectly white and black: for they differ according to the quality and compofure of the cloud: wherefore some be very white, and that is when the vapour whereof the cloud consisteth is very subtil and thin; some yellowish, when the vapour is thicker; some ruddy and duskyish, when it is meanly thick; some black, when it is very thick; and some greenish, when it is more watery than ordinary, being best discerned when it is far from the Zenith, and obvious by an oblique object.

The red and ruddy colours are seen onely in the morning and evening, when the light of the Sun is not in his full force; for at other times his light is too vehement, clear, strong and piercing. And by a diligent observation of these colours, I think a Man may as easily judge of fair or foul weather, and the like, as a Physician may of the temperature of the body by inspection of the urine. But of colours you may see more * afterwards.

Why red clouds are seen only in the morning and evening.

*Fig. Parag. 6,
Artic. 1.*

Artic. 3.

Artic. 3.

Of many Suns and Moons.

AND now concerning many Suns ; they are called *Paraheli*, from *παρη* and *ἥλιος* ; which is as if one should say, *apud solem* : because they are as it were with the Sun in place, as also not absent from him in splendour and fashion.

Their generation is after this manner ; *viz.* when a smooth watery cloud which is of equal thickness, quiet and still, is placed on the side of the Sun : not under the Sun, for then there would be a circle ; nor opposite to the Sun, for then there would be the appearance of a Rain bow : but on the side ; which must not be too far off, nor yet too near : for if it be too far off, then reason telleth us, that the beams will be too weak to reflect in a convenient manner : or if it be too near, then the Sun will disperse it without any image at all.

Now if such a cloud as this we speak of shall happen to be on both sides of the Sun, then the appearance will be as if there were three Suns ; whereas there is indeed but one : the other two being the images of the true Sun, seen onely by reflection or refraction upon the cloud on either side. Or be there more pieces of such a cloud than one, set at a convenient distance ; then there may be many Suns : even as in a broken looking glass, every part will shew the shadow of that face which is obvious to it.

What is signified by many
Suns.

Moreover, these many Suns may be said to have a double signification ; the one natural, the other supernatural.

According to their natural signification, they betoken rain, and moist weather ; because they cannot appear but in a moist disposition of the air.

And as for their supernatural signification, experience

rience hath witnessed, that they have appeared as the portenders of change in States and Kingdoms; or as the foretokens of Gods wrath upon sinners. For this is a rule, that such things as are strange may be derived both from natural causes, and also include God the chief and best cause of all things: by whose admired providence each thing is ordered, and by whose unspeakable wisdom each particular change hath been decreed: yea even in the course of nature (before ever nature was) he both foresaw and appointed how things should happen; although in respect of our weakness and want of skill, the searching of them out be too abstruse and hard. For as I verily believe, that not so much as one poor sparrow falleth to the ground without Gods providence; so I do also acknowledg, that by his providence likewise he bringeth to pass these and the like things, for such ends, as he in his secret counsel hath determined; using his creatures (whose courses in each particular he both set and foresaw) as instruments and means to effect them.

But I proceed. And as for the supernatural signification of these Suns, experience (I say) hath witnessed that some strange thing or other usually followeth after them. As not long before the contention of *Galba, Otho*, and *Vitellius*, for the Empire of *Rome*, there appeared three Suns, as it were pointing out the strife which followed soon after between them three * for the Imperial Diadem.

Also in the year * 1233, upon the the 7 day of *April* four Suns were seen besides the natural Sun: in which year (as *Langwets* chronicle testifieth) there was great debate kindled, and much variance stirred up between *Henry* the third, King of *England*, and the Lords of his Kingdom: and in the very * next year, *England* was wasted with fire and sword from *wales* to *Salisbury*; which said Town was also burned; and at the same time was a great Drought and Pestilence.

A rule and an observation concerning strange sights.

* *Fulks Meteors.*

* *Stows abridg. of Chron.*

* *Stow. ibid.*

* *Idem*

Also in the year * 1640, three Suns again shewed forth their orient faces, which was but the day before the three Earls, viz. *Edward Earl of March*, with the Earl of *Pembroke*, and Earl of *Wiltshire*, fought their great battel in *wales* at *Morrisers* cross (as *Stow* in his *Abridgment* affirmeth;) where the Earl of *March* put the other two to flight, and slew many of their people. And again, in the year 1526, towards the slaughter of *Lewis* the second, King of *Hungary* * three Suns marched out, * betokening the three Princes which strove for the Kingdom after him; which three were these, viz. *Ferdinand*, who was afterwards Emperour, and *John Sepusio Vaisvode* Governor of *Transilvania*; as also *Solyman* the Magnificent, or great Turk, being one of the hardiest Captains in all his time.

* *Fulks Meteors.*

* In the year 1619 were also seen at *Latan* in the month of *May*, at the rising of the Sun.

Fromund.

Mes. l. 6.

And now after the consideration of many Suns, it followeth that I speak of many Moons, of which it is no hard matter to know the natural cause, seeing their generation is, as before hath been shewed concerning many Suns.

*On Earth 2 day
of 1 week.*

*For if a watry Cloud shall side-long sit,
And not beneath or justly oppose
To Sun or Moon; then either of them makes,
With strong aspect, double or treble shapes
Upon the same. The vulgar then's affrighted
To see at once three sparkling Chariots lighted;
And in the welkin, on nights gloomy throne,
To see at once more shining Moons than one.*

Artic. 4.

Of Beams or Streams of lights.

NExt unto these I mentioned Beams or Streams of light, and they are generated after this manner; namely when the light of the Sun falleth into a watery cloud

cloud of unequal thickness, or rather of unequal thinness; or into such a cloud whose parts are some of them of spongy nature, and some of them more closely compacted: For the thinner and more spongy parts receiving the light do represent certain clear and white streakt beams, whilst the thicker parts and more full of humour are not pierced at all, but look of another hue; from whence it comes to pass that these streams are often of differing and many colours.

Artic. 5.

Of Circles or Crowns.

CROWNS, Garlands, or Circles are seen sometimes about the Sun, sometimes about the Moon, and sometimes about the brightest Planets, as *Jupiter* and *Venus*. This appearance is commonly called * *Halo*; and the matter or subject of it is a cloud, which must be thin, and not thick; Secondly, that it be equal and uniform, not in one part more thin than in another; And thirdly, that it be directly under the Sun, Moon, or any such star whose beams cause the circle: Unto which add this last, namely, that it be not disquieted by any wind. And being thus placed and composed, look how a stone cast into the water makes a circle until the force of the blow be waisted; So this watery cloud being struck with the force of the Suns, Moons, or Stars beams, doth retain their light in form and manner of a circle. Or rather thus; the beams of the star, &c. equally dispersing themselves so far as they can, do at their utmost extent make a refraction in the cloud, which must of necessity be round, because the body of the star it self is round and cannot possibly send out his beams further in one place than in another. This therefore made *Dur* *Bartius* say,

* Halo, Græcis ἅλως nominatur, hoc est. Area: quoniam (ut Seneca refertur) apud veteres sapientis frugibus loca destinata fore rotunda fuerunt. Latini Coronam vocant, quia rotunda plenumque comitas figura, & sidera cingere atque coronare videntur.

De Baris, 2 day
of one week.

*Sometimes a fiery circle doth appear,
Proceeding from the beauteous beams and clear
Of Sun and Moon and other stars aspect,
Down-looking on a thick round cloud direct;
When, not of force to thrust their rayes throughout it,
In a round Crown they cast it round about it.*

And note that sometimes it appeareth greater, sometimes lesser: which is in regard of the quality of the matter whereof the cloud consisteth. For if it be gross, the beams piercing it can spread or dilate it but a little way. If it be thin, they then are able to dilate it further.

The significacion of circles.

And as for their significations, they sometimes signifie Rain, sometimes Wind, sometimes Fair, clear and calm Weather, sometimes Frost, sometimes Tempest, and sometimes Snow.

1. Rain, if the circle wax altogether thicker and darker.

2. Wind, when the circle breaketh on the one side: The reason whereof is, because the circle is broken by the wind which is above and not yet come down to us here below: But by this effect above we may gather both that it will come, and also from what quarter; namely from that quarter where the circle breaketh first.

3. But if it vanish away and be dissolved altogether, or in all parts alike, then it is a token of fair weather.

4. Or of Frost, in Winter, when it is great about the * Moon.

5. Of Snow, when at the same time of the year it seemeth to be craggy and Rocky.

6. Or of tempestuous weather, when it looketh ruddy, and is gross, and broken in many parts.

And thus much concerning Circles.

* They are very seldom seen about the Sun, because of wind in the day time; or because the Sun either draweth the vapours too high, or else disperseth them too much. In the year 1104 there was a blazing Star, and 4 circles about the Sun, which was a sign of the new kindling malice again between Henry the first, King of England, and his Brother Duke of Normandy. See in his Chron.

Artic.

Artic. 6.

Of the Rain-bow.

THe Rain-bow is to be spoken of next ; And this is nothing else but the apparition of certain colours in an hollow, watery, distilling, or dropping cloud directly opposite to the Sun, representing in its fashion half a circle.

Or thus : It is a bow of many colours, appearing in a dewie, dark, droppey, and hollow cloud, by reflection of the Sun beams opposite to it. For this is certain, that lightsome or luminous bodies do cause images, colours, or appearances upon slender, clean, and thin objects : Now of all bodies the Sun is most lightsome ; but the air and water are clean, thin, and slender.

Hence then it appeareth that the Efficient cause of the Rain-bow is the light or beams of the Sun ; vvhich falling into fit, apt or convenient matter, opposite to them, are refracted and reflected to our sight.

The efficient
cause of the
Rain-bow.

The material cause is not vvater in act, nor yet thick air, but a dewie vapour ; vvhich is not *continuum*, sed *positum corpusculis gustularum discretis* ; not absolutely of one body, but rather severed into many bodies, or little drops.

The material
cause.

The form of it is to be gathered out of the Figure and Colours.

The formal
cause.

And for the Figure vve see it is circular ; But yet it never representeth to us any more than a Semicircle, and not always so great an arch : The reason of vvhich is, because the centre or middle point of the Rain-bow, vvhich is diametrically opposite to the centre of the Sun, is always either in the Horizon, or under it : So that seeing our sight of the Heavens is cut off by the Earth in such a manner as that we can never see above half of them, it must needs be, that the appearance of this circle.

The colours in
the Rain bow.

circle be either more or less to us, according to the suns great or little distance from the *Horizon*.

And as for the colours, they are commonly accounted three, *viz.* Ruddy, Green and Azure. To which some add a fourth. The first is in the thickest and darkest part of the cloud: For where a bright shining falleth upon a darkish place, there it presenteth a ready colour, being somewhat like a Flame. The second is caused by a more weak infraction, being in a remoter and more watery part of the cloud: whereupon it looketh greenish.

The third, which is further in the cloud, proceeds from the weakest infraction; and is therefore of a more dark and obscure colour, tending to a blew or an azure hue. And sometimes a fourth colour is also perceived, being very like a yellow or orange-tawny, proceeding from a commixture of the red and green, according to *Aristotles* judgment: of which the learned may see *Jul. Scaliger, exerc. 80. sect. 4.*

Now these colours in some rain-bows are more vehement or apparent, in others more remiss or obscure; which is according to the aptness of the cloud, &c.

Moon bows.

And in rain-bows caused by the Moon (for sometimes, though seldome, they have been seen in the night) the colours are weaker, whiter, and less conspicuous; being in a manner as white as milk: which is, because the Moon having a borrowed light, is nothing so strong in the projecting her raies, but far more feeble than the Sun.

The final cause

But come to the final cause, and you will find it two-fold; partly Natural, partly Supernatural.

How to judge
of the weather
by the Rain-
bow.

As it is Natural, we take it either as a sign of rain, because it cannot appear but in a watery cloud, which is so prepared that it is ready to fall into very drops: or as a sign of fair weather; namely then when the beams of the Sun are strong, and the heat of it so great that the moisture of the cloud is dried up, and the drops attenuated into thin air. All which may be discerned after this manner.

manner, viz. when the colours grow either darker and darker, or clearer and clearer. For if the colours appear Dark, Thick, or obscure by little and little, at the last they bury themselves in a black cloud, then rain followeth. But if the colours by degrees grow clearer and clearer till at the last they vanish away, then we may expect fair and bright weather. And this as it is a natural sign.

But now as it is Supernatural: and then we behold it as a sign or symbole of Gods mercy towards the world, betokening that it shall never be destroyed again through any Deluge or universal flood. For it shall be a sign of the Covenant (saith God) between me and the Earth, viz. that there shall be no more a Flood of waters to destroy the Earth, Gen.

From both which significations or ends, it may well be called *Iris*; for *iris* in the Greek is as much as *disco* in the Latin, signifying, *I say, I publish, I tell, or I declare.* *Iris* therefore comes from *iris*, *disco*; First, because this bow publisheth or telleth to us the constitution of the air. Secondly, because it declareth the Covenant of God made with the World after the Flood; shewing that his wrath is so far forth appeased, that he will never drown the World again; which appeareth even in the order observed in placing the bow: for we see it with the bended ends downwards, and as one that holdeth a bow in peace; insomuch that had it a shaft in it, the Earth should not be shot; neither ought man to fear that the Lord will shoot any more such arrows of displeasure as before.

Some have thought that there was no rain-bow before the Flood, but that it appeared since; because God saith, *when I make the Heaven thick with clouds, I will put my bow in the clouds, Gen 9.*

To which it may be answered, that God saith, not that he will of new create a bow, but that he will then put into the clouds so as it never was before: namely,

The derivation of *Iris* signifying the rain-bow.

The rain-bow was before the Flood.

to be a sign, &c. So that although it were not as a sign of any Covenant before the Flood, yet without doubt it was as a Meteor then as well as now; and therefore was: otherwise we might deny both bread, and wine, and water to be before the institution of the Sacraments; for it is the same reason. Wherefore, as there was water before ever it was used for the water of regeneration in the Sacrament of Baptism; and as there was bread and wine before ever they were used as signs at the holy Communion; so also the rain-bow was before ever it had that office to be a sign of Gods Covenant between him and mankind, just as at this day it appeareth even to such as are not of the Church; very Heathens and Pagans beholding it as well as we.

Besides, there were from the beginning the same causes in nature to produce it; for there wanted neither a Sun to draw vapours from watery places, nor yet a convenient place in the air to thicken them into clouds; neither was the Sun destitute of the sparkling raies to make reflection and infraction; but as it is caused now, so also then, and to think otherwise were to think amiss.

Some again have been perswaded that this Bow was before, but was not in a cloud before. And thus thought certain amongst the Hebrews.

But this is a reasonless assertion, and against all Philosophy, and not at all approved by Divinity. For how could that appear in a clear air, which can have no existence or being, but in a dewing or distilling cloud? Verily of both absurdities the former was the better, namely that it was not at all; and yet that also wanted grounds to uphold it, as hath been shewed, and is yet further manifest. For seeing the Lord God in six dayes finished the Creation, and set the perfect order of all his creatures; it followeth that the rain-bow had then his place either in being or in power. And thus from two absurdities I bring you to a third. For furthermore, it hath been

been the opinion of some idle doting brains to think that there shall be no rain, nor rain-bow, 40 years before the end or destruction of the world by fire, because the very air (say they) must be prepared a long time before by a continual driness, and each thing made fit for combustion.

Which surely is a brain-sick phancy. For what do they in this but shew their extream folly, derogating not only from reason, but also from the power of God? For is not God able to destroy the work of his own hands without such a supposed preparation, and make the vworld combustible in an instant, it need be? Or should there be no rain, and consequently no bow (because it appeareth in a watery cloud) then how should the fruits of the earth be preserved? Great famine and misery must needs follow in the world if this be true. For when the clouds drop no fatness, then the ground pines away through barrenness; and vwhen the Heavens are Iron, then the earth is brass: vwhereas it is manifest, that at the coming of Christ there shall be pleasant and fruitful times, times full of mirth, vwherein they shall eat and drink, marry and be given in marriage, even as it vvas in the dayes of *Noah*. Who therefore vwill think that these men are in their right minds, whilst they affirm that no rain shall fall for the space of 40 years before the World endeth.

The Jews as soon as they behold this bow (not daring to gaze upon it) do presently go forth and confesse their sins, acknowledging that they are vworthy to be destroyed vwith a Flood as the old World vvas; and in being spared they celebrate the mercy and clemency of God for sparing them. But, saith * *Pareus*, although they mingle this Religion vwith much superstition, because they dream that the name of *Jehovah* is as it were engraven on the bow, and because they turn their eyes away as from the majesty of God appearing there, not daring to look upon it, lest (as may be said) beholding

A gross absurdity of some who think that there shall be no rain nor rain-bow 40 years before the worlds end.

What the Jews do at the sight of the rain-bow.

* On *Gen. c. 2.* pag. 898.

the face of God they die: Yet it is meet even for us upon the sight of it to be so far forth touched with a reverence towards God, that we pass not away with the symbole of the Covenant with a brutish dulness, lest thereupon we grow unmindful of Gods severity and goodness.

There is also another thing observable concerning this bow which I may not forget; namely this. The mystery which (according to some mens phancies) is involved in the colours. For in a mystery they would have it betoken both the Baptism of Christ, by water and fire; and also the two judgments of the World, the one already past, the other yet to come: that which is past appeareth in the watery colours, shewing that the World hath been drowned: that which is yet to come appeareth in the fiery colours, shewing that the World shall be destroyed by fire, or burnt up at the day of judgment. But (saith *one) these and the like applications are witty and pretty, rather than wise and pithy: I leave them therefore, and proceed.

Dr. Miller on
Gen.

Artic. 7.

Of chaps or gaping in the sky.

THE Philosophers call this Meteor *Chasma*, *αἰμα* *αἰμα*, *quod est hio, vel debisco*; to gape or open: and in latin it is *Hiatu*, a word of the same signification. There are two kinds of these gapings or openings: the one wide, the other round. And although I reckon these among such fiery Meteors, as are fiery onely in appearance; yet it may be that they sometimes burn, and sometimes only seem to burn.

* Tiselman com.
pen. nat. Phil.

They seem to burn when the Exhalation by reason of the * want of viscous matter is not enflamed, but enlightened rather on the outward parts, having much rarity or thinness in them: at which time the middle parts

parts receiving no light, in regard that it is black and thick, there appeareth as it were a gulf in the sky. The reason whereof is, because the black is compassed about with white; which white presenting it self * sooner to the sight than the black, makes the black seem to be far off, and the white near hand: and the black being far off, seems like a gaping deep: which (as hath been said) is sometimes * greater, sometimes less, according to the fashion or quantity of the Exhalations or cloud represented by it. And after this manner cunning painters deceive the eye in shadowing their Pictures. For when a bright, clear, and aery colour is laid circularly, and a thick, dark and obscure, colour in the middle of it, then the appearance is like some gulf, hole, or deep pit; which they fashion diversly according to their skill in phancying the laying of their colours.

All this is when it burneth not.

But note that sometimes this Meteor burneth in very deed. Which is when the Exhalation hath much viscosity or clammy matter in it; the thick and dark not burning but remaining in the midst; and the thinner parts on fire, deceiving the sight with a seeming gaping, as before when there was onely light in those thin parts instead of fire.

And thus have I shewed you the natural cause of all fiery Meteors.

Sect. 2. Parag. 6.

Of watery Meteors and their several kinds.

NOW it followeth that I speak something of watery Meteors, and shew after what manner they are generated. They be called watery because they consist most of water; their substance being that kind of Exhalation which we call *vapor*, and not *Fumus*.

* *Que clara sunt alioq, parent colore, celeriter rixum nescit; qua vero nigra et obscura sunt, minus eum afficiunt.*
 * *Si magna fuerit vorago; si non ita magna, hiatus nominatur. Tiesman.*

And that which in the first place offereth it self, is *Nubes*, a Cloud.

Artic. 1.

Of Clouds.

* It is said that clouds have sometimes fallen down to the Earth with great noise to the terror and damage of such as had them in their Zenith, which Clouds came but from

the highest part of the lowest Region: yet nevertheless they were generated in the middle Region, but waxing very heavy have sunk down by little and little, till at last they seem to fall no further than the lowest Region. But this is seldom. They may also fall by drops through their own weight.

It is also twofold; either fertile, or barren.

A fertile or fruitful cloud affordeth rain; but a barren cloud doth not, because it is at length by the blasts of wind, and vertue of the heavenly bodies, turned into thin air.

And to either of these Clouds belong motion and colour.

Their motion is caused by the wind most commonly, through whose force they are driven to and fro: But if the winds blow not, then they are drawn along by the Sun, and made a companion with him in his travels, always moving that way which the Sun goeth.

Concerning their colours I spake before in *Paragraph.*

graph. 5. Article 2. And therefore here you may expect the less: yet let me say that they are either simple or mixt.

Black or white are simple; because they consist of no other colours. But red, green, and the rest are mixt.

They appear white when the vapour is thin; for then it is easily pierced by the light, which disperleth it self into it.

But when they appear of a * black colour, then the vapour is thick, and more closely condensed; in. omuch that the beams of light cannot be admitted.

As for their redness, it may be caused two ways, according to *Goelenius*: either through the aduision of the air *magno aestu incensum*, as he saith: Or *propter refluxum radium Solis*, by reason of beams of the Sun beat back again: which, falling upon a watery cloud that is thickly condensed, pierceth not; but being doubled causeth redness, as in the morning; and this is a sign of rain, but the other is not. For the other redness is in such a cloud as sheweth the dryness and aduision of the other, the cloud it self consisting of a smoaky humid substance, unto which is joynd a kind of dry and adust matter. This therefore is a sign of * fair weather, being seen in the evening towards the place of Sun setting; according as it hath been said of * old, *Sero rubens cœlum, mane indicat esse serenum.*

ram aestu solis exsiccatam, ejuque humorem absumtum esse denotat. Sed matutina rubedo pœtius aut ventis promittit, quia vapores humidæque & subdensatum nubium absumi non poterunt. Ibid.

Concerning green Clouds, they are altogether watery, and as it were already resolved into water; which receiving into them the light appear green, like unto water in a great vessel, or in the Sea and deep Rivers.

Blew clouds come something near to the nature of black, excepting that the black are thicker.

And note, if when the Sun sets, there appear or arise

* *Nigredo in nubibus ob vaporem densitatem oritur, quæ lucem collustrare non admittit. Et sic e contra fit Albor, viz. e vapore subtile et patrum compressato quem radium facillime penetrat, & æquabiliter in illum spargitur, Goelen. disput. Phys.*

* *Vepertina rubedo serenitatem significat, quia rubedo nulem ra-*

rise black dark clouds, it portendeth Rain. Also observe the place opposite to the Sun at his setting; *viz.* the East, and see if that be clear; for if it be pestered with black clouds, there is but small hope of fair weather that night, or the next day.

The height of
the Clouds.

The common opinion is, that the height of the clouds is not of above nine miles. But it is agreeable to no reason at all why any certain height should be determined: for they are unequal heights, differing both according to the time of the year; being lower in winter than in summer: for when the Sun hath the greatest force they then ascend the higher; and in his smaller force they hang the lower. By which it appeareth that the Sun helpeth to uphold them, and keepeth them (although heavier than the air) even in the air; for they sometimes also follow his motion.

How the
Clouds natu-
rally hang in
the air.

But note that it is not the Sun alone which upholds them, for the air it self is also a cause of their not falling; and that both within the clouds; for the Clouds are of a spongy nature, and full of pores, which are filled with air lest there should be *vacuum*; and this air heaveth them up, causing them to aspire: without the Clouds also, because they do as it were float up and down in the air, as some heavy things do in the water, and yet not sink, unless their substance be too earthy and heavy.

Artic. 2.

Of Rain.

FROM Clouds I proceed to speak of Rain. And Rain is nothing else but as it were the melting of a Cloud turned into water. Or according to *Aristotle*, it is the flux of a fertile Cloud resolved by the heat of the Sun into distilling drops of water, which being depressed with their own weight, fall down to the Earth. For when

when the matter of the cloud, being a cold vapour, and earthly humour, is drawn from the Earth and waters, into the middle Region of the air, and there thickened through the cold, dwelling in the confines of that place, it is at the last dissolved, and cannot therefore but fall down in drops: vvhich drops, if they be great, are caused, either by the quick resolution of the Cloud, or else by the little distance of it from the Earth. But if they be smaller, then either the * great distance or slow resolution maketh them of no ample quantity.

The first of these is named *nimbus*; the other is called *imber*.

And note that the dissolution (as hath been said) proceedeth out of heat; vvhich is not onely of the Sun, but of Winds also of an hot temper: as is seen in the Southern vvind, vvhich bloweth up Rain sooner than any other Wind. And as for Rains vvhich come from cold Coasts, and at cold times of the year, if the Cloud be not at such times (as some may think) dissolved through the heat of any vvind, it dissolveth it self through its own vveight, (being a little holpen by the Sun) for it continueth in the air even vvhist it can stay no longer. And at these times also, if vve consider all aright, vve shall find that the vvind somewhat helpeth, although not so speedily as from hotter Coasts: for naturally there is a kind of heat in every vvind (because it is an Exhalation hot and dry) although by accident (as from the nature of the place over vvhich it passeth) it may be altered: of vvhich I shall speak more afterwards. And besides all this, the secret influence of the Planets vvorketh greatly towards the dissolution of the foresaid vapours.

But I proceed. And now it followeth that I divide all sorts of Rain into two kinds: First such as are ordinary; secondly, such as be extraordinary.

I call those ordinary: vvhen nothing but vvater falleth. And I call those extraordinary vvhich others call

* This may be seen if any will but assay to pour vvater from an high place.

Ordinary and extraordinary rains.

Prodigious
rain.

call prodigious Rains : as when Worms, Frogs, Fish, Wheat, Milk, Fleish, Blood, Wool, Stones, Iron, Earth, &c. fall from the clouds. *Pliny* makes mention of many such prodigies as these, in the 36 chapter of his second book ; setting down the times vvhen they happened.

Concerning all vvhich , next under God (the causer of all causes causing them) these or the like reasons may be urged to such how it is possible they should be procured , and upon vvhat causes they naturally depend.

Worms.

1. And first for the raining of Worms : it may be thought the putrefaction of some dead Carcasses or other hath been drawn up into the air as fumes and vapours are, vvhere it breedeth such vvorms as use to breed out of the like matter here below.

Frogs.

2. The like may be said of Frogs, vvhen the vapour is exhaled out of marshy grounds at such times as they engender.

Fishes.

3. So also of Fishes ; excepting that (as is supposed) the force of vvinds may suddenly sweep away little fry out of ponds upon Mountanous places : and so also little young Frogs, with many the like things, may be taken up. Some write of a whole Calf falling from the clouds ; and have been therewithal perswaded that it is possible, of Vapours and Exhalations, with the power of Heavenly bodies concurring, a calf may be made in the air. But this is idle. It was therefore (as others write) taken up in some storm of whirlwind, and so let fall again.

Wheat.

4. As for Wheat, and other grain, it hath been observed that their raining down hath often come in case of extremity, to the great preservation and refreshment of the distressed : in which regard it may be supposed that it was an immediate work of God, wrought without the rule of nature : so, that were all the wits in the World prest into one, yet were they all too weak to shew

a true cause of such a prodigy. Which made *Dn Bartas* write concerning such, in the 2. day of the 1. week.

*Let them declare what cause could yerst beget
Amid the air those drizzling showres of Wheat,
Which in Carinthia twice were seen to shed;
If hereof that People made them store of bread.*

To speak therefore as I think, I will not boldly affirm how this was caused, but onely touch at the possibility of it; namely, that it might be affected like unto other strange rains, first drawn from the Earth into the air, and then sent it down again. For (as I have * already said) in shewing probable reasons for such things as are strange, we do also include God the chief and best cause of all things. And so also we read, that when the Red Sea was bayed up with a double wall, to give the children of *Israel* safe and free passage through it, God sent a strong East wind all that night, &c. by which the waters were divided, *Exod.* 14. 21. And again, when the Quails came and filled their Tents, being as it were rained round about them: they were brought from the Sea with a wind, and let fall a days journey on this side, and a days journey on that side, even round about their Camp, *Numb.* 11. 31.

He that hath seen (saith * one) an egg shell full of dew drawn up by the Sun into the air, in a *May* morning, will not think it incredible, that Wheat and other grain should be drawn up in much hotter Countreys than ours is, much rather the Meal or Flower which is lighter.

5. By the like reason also it sometimes raineth Milk: for when the *intensissimus solis calor*, the vehement heat of the Sun, shall either draw milk from the Udders * of Cattel, and shall mix it with the other parts of the Cloud: or shall so thoroughly try, purifie, digest or concoct the vapour, that it may look something white,

Q

then

* Paragraph 5.
art. 3. and elsewhere.

* Milk in his
Meteors.

Milk.

* Which may
be done in summer, and in hot countries.

then will the drops look as if it rained Milk.

Flesh.

6. As for the raining of flesh, it is supposed to be after this manner, namely through the drawing up of Blood from places where much blood hath been shed, which being clotted together seemeth as if it were flesh.

Blood.

7. And so also it may rain blood; namely, when it is not clotted together, but thinner, &c. In the year of Christ 480 was such a rain. As also in the year 864, near unto *Brixia* in *Italy*, was the like. Yea, and before, either of these times, our own * *Chronicles* tell us that in the dayes of *Rivallo* King of the *Britains*, we also had blood rained; upon which ensued great mortality of people. Histories make mention of the like wonders at other times.

* *Langues*,
Stons, &c.

Object.

But, say some, there is often great store of blood spilt and yet no prodigy appeareth.

Answer.

To which is answered, that it is not the ordinary exhaling vertue which resteth in the Stars and Planets that can dry up such bloody vapours, although much blood be spilt; but then only when there is a more unusual concurrence of causes; for sometimes they are disposed to one thing, sometimes to another. And for the working of any strange thing, it must be when there is strange kind of combination amongst them. To which purpose we know (although we cannot always directly see and demonstrate how they are mixed and combined) that they principally intend and cause at the same time other changes, of which the visible prodigy is but the proclaimer or fore-runner: as if you look but a little before concerning Comets, you may see, and so rest satisfied.

And unto this also add, that there may be drops like unto blood, and yet no blood drawn up: And this may be, either when the Sun draweth vapours out of putrified watery places, in which (as I have often seen) in a drought resteth much slimy and red-coloured corrupted

rupted water; or else when the Suns attentive heat doth so boyl the water in the cloud, that like unto the Urine which a Man maketh in a Burning-feaver, it looketh red when it falleth. The like cause I gave before unto the water of white colour: but know that it must then be of another quality, the matter of the vapour I mean: for there are some kind of waters, as is well known, which being boyled turn to white salt, &c. And as for a red colour, the ordinary rain water looketh alwayes more brown than spring or river-water, being as if a more powerful operation would turn it into red.

8. The raining of Wool or Hair, is when a certain mossiness like Wool, such as is upon Quinces, Willows, and other young fruits and trees, is drawn up by the Sun among the Vapours and Exhalations, which being clotted together falleth down like locks of Wool, or hair.

Wool.

9. Concerning Stones, they proceed from earthly matter gathered into the Clouds, as before was shewed concerning the Thunder-stone, &c.

Stones.

Pliny, in the 58. Chapter of his second book, writeth of a strange stone which fell out of the Heavens; the fall whereof was foretold by *Anaxagoras* in the second year of the 78 Olympiad.

10. Iron may also drop out of the Clouds, when the general matter of all metals, which is quick-silver and brimstone, with the special matter of mixture making Iron, are all drawn together, and concocted into metal: Or (as one saith) *Quando vapores metallici aut sulphurei in aere indurantur, vehementi siderum caliditate;* When Metallick vapours, or vapours of a sulphurous nature, are hardened in the air by the vehement heat of the stars.

Iron.

11. And as for Earth, Chalk, Dirt, and the like, it is drawn up in thin dust at the first with the vapour: Or else, by force of some wind blowing from caverns, or holes of the ground, it is carried up; and being conglomerated,

Earth.

Red Crosses.

* Rufinus.
Hist. Eccl.
 l. 1. c. 19.

* Theod. *Hist.*
Eccles. l. 3. c. 20.

merated, or as it were glued together, falleth down again.

12. But beside all these, there have sometimes been red drops, which falling upon mens garments have made a stain like unto a cross. Such drops as these fell upon the * clothes of the Jews, when in the dayes of the *Apostat Julian* they went about to restore their City and Temple. For when the said *Julian* raged with impiety and devilish fury against the Christians, he gave the Jews licence to build their Temple, that they might restore again their ancient sacrifices, and the like things that they longed for: at which time *Cyril* was Bishop of *Jerusalem*; and he (to animate the Christians) shewed that it was impossible for the Jews to finish that work which they had begun; alledging the Prophet *Daniel* in his ninth chap. at the 27. verse; and also that saying of our Saviour in the 24. of *Matthew*: by both which places it did appear, that *their house was left unto them desolate*, and that *there must not be one stone upon another*; but that *their desolations must be perpetual*.

Thus it happened to the Jews. But this surely was a thing altogether miraculous. For their red crosses came not alone, but were accompanied with other prodigies. As first of all an Earthquake, which overthrew and tumbled down their building which they had raised upon the old foundation. Then came forth a fire which consumed all their Engines and Instruments. And last of all fell these drops, imprinting upon their clothes crosses with so deep a stain, as they were not able to wash them out: And both the * same night, and night after, was also a bright sign of the cross seen in the sky, as *Theodoret* in his Ecclesiastical History reporteth: adding herewithall, that when the Jews saw this, they fled and returned home, being perplexed through fear of a divine scourge; confessing that he, whom their forefathers had nailed to a Cross, was God indeed.

This was both the prodigy, and the issue of it: of which

which, being so plainly miraculous, I know not what to say.

But I find that other times have in a manner afforded the like. Wherefore (although I speak nothing at all of these at this time thus miraculous) concerning them some reasons may be given.

And not to go far, *Magirus*, in the * Comment upon his Physicks, telleth us, that in *Suevia*, a Province in *Germany*, in the year of our Lord * 1534, the air distilled certain red drops, which falling upon linen garments, made such an impression or stain as was like unto a cross; Which impression (as he alledgeth out of *Cardan* his sixteenth book *De subtilitate*) might be procured thus; viz. because a certain kind of extraordinary dry dust sticked to those garments; which, by the piercing or through-washing drops falling upon it, was so miraculously divided into parts, that there seemed a figure as of a cross. Or thus, because the woven threads in themselves had such a form. Or else (which is most probable) because the humour in the middle part lay on high, whereas the sides were but thin, and fashioned according to the dashing of a drop. For vvhhen a drop falleth upon any thing vvvith a kind of force, vve see that most of the humour resteth in the midst, vvhist certain sparkling rayes are dashed about the sides: And thus he thinketh it might be then, in the fall of those staining drops; which why they stain, hath relation to that which I said before concerning the raining of blood.

I will therefore now conclude; adding in the last place, that the Devil, by Gods permission, both often hath and also doth produce many such prodigies as these that I have spoken of, with sundry other like unto them; especially amongst the * Heathen, Pagan, and superstitious Nations. For he is *quovis homine scientior*, more subtil than any man; his knowledge and skill whereby he worketh wonders arising, First, from his spiritual nature, which proclaimeth a large measure of cunning and

Reasons concerning Red crosses at other times.

* Lib. 4. c. 6.

* So also in *Westphalia*, anno 1543, at *Lovans*, 1568. ipso Pentecostæ die. And in the year 1571 *anditione Embdensi*, in *Frisiæ Orientalibus*. See *Fromond. Meteor. l. 5. c. 6. art. 3.*

The Devil many times worketh in the air.

* Plal. 78. 49.

How it comes
to pass that the
Devils know-
ledge is far be-
yond mans.

Mat. 8. 11.

Job 1. 10.

* Saxo Gram-
mat. Qlani
magni.

* Ephes. 2. 2.

Exod. c. 7. & 8.

and wisdom in him : for we know that there is a greater measure of knowledge in Man, than is in a brute beast, by reason of that nature which God hath given unto Man above Beasts ; and where there is a nature and a substance beyond either, there must also be knowledge above either. Secondly, God created him a good Angel ; and although, like man, he lost much by his fall, yet thirdly by his long observations, and continual experience, he hath as it were made up the breach, or want of his created knowledge, by acquired skill ; and therefore, when he hath * commission ; he can upon occasion work strange wonders. As for example, nothing more familiar or common in * *Lapland*, *Lithania*, and all over *Scandia*, as also in *Tartaria*, than to sell Winds to Mariners, and cause Tempests ; which the Witches and Sorcerers there procure by the help and power of the Devil : whereof he sheweth himself, according to his * title, *Prince of the air*.

Wherefore (as I said) I do not doubt but that many such as the former strange prodigies, especially long ago in heathen times, and amongst Heathen People, were procured by his power. For what did the Magicians in the sight of *Pharoah*, but as it were rain Frogs, and turn the waters into blood, although *Moses* and *Aaron* were by ?

Besides, it is apparent that in the little World, I mean when parties are possessed, the Devil can cause them to vomit strange things out of their mouths and stomachs ; as crooked Pins, Iron, Coals, Nails, Brimstone, Needles, Lead, Wax, Hair, Straw, live Eels, and the like ; of which many have been eye witnesses, confirming the same for truth. All which, he can as well and easily perform in the greater World ; causing the air to spit, and the Clouds to vomit (for his own advantage) most strange and prodigious things.

Zanchius his opinion was not much differing : for, speaking of strange Rains * he confessed (concerning some

some of them) that they were produced by such causes, or the like, as I before alledged; concluding for the rest which were more occult, that they were truly prodigious, and caused, either by the power of God, as portenders of his wrath; or else by the sleights of the Devil, through Gods permission.

Artic. 3.

Of Dew.

DEw offers it self in the next place, as being a near Kinsman to Rain. For it consisteth of a cold moist vapour which the Sun draweth into the air: from whence, when it is somewhat thickned and condensed through cold of the night, and also of the place whither the Sun exaleth it, it falleth down very small and is discernible drops, to the great refreshment of the earth.

And this is certain, that the Morning and the Evening are the only times when it falleth; the reason being in regard of the Sun, which both positively and privatively causeth it. Dew at night is caused privatively: dew in the morning, positively. At night or in the Evening privatively, because when the Sun setteth, the lowest part of the vapour not being high enough to hang in the air, falleth down through absence of the Sun. And in the Morning positively, at the return of the Sun the residue of the vapour, together with the augmentation of it (haply by some condensed air caused by cold of the night) is dissolved by his approaching beams, and so made fit to fall, rather than hang any longer. For look what vapours are about the Horizon at the rising of the Sun, are dispersed by his first approach, and so it comes to pass that the morning as well as the evening affordeth Dew. But know that if the vapour be not conveniently placed, that is, if it be very high

*Sentio (inquit) sales pluvias
verè prodigiosas
esse, & fieri aus-
solia Dei poten-
tia, eoque iram
Dei perunderes
qualis fuit ille
cum pluit sul-
phure & igne
supra Sodomam.
& alias urbes:
aut etiam de-
monum prefligi-
is, Deo per-
mittente fieri.
Zanch. Tom 3.
l. 3. c. 3. quæst.
6. Thes. 1.
Why dew is
but in the
morning and
at evening.*

*Why no dew is
a sign of rain.*

above

above the Horizon, or in a lofty station in the air, then the Suns approaching beam neither dissolveth nor disperseth it; whereupon we have no dew, but rather look for rain, because the matter of dew is still in the air, staying there till it be turned into a cloud, and so into rain.

And now by this you may see what is the material, what the efficient, what the formal, and lastly, what the final cause of Dew.

The material cause is a subtil and moist vapour, being the thinnest of all vapours.

The efficient cause is the temperate cold of the night, together with the absence and approach of the Sun.

The formal cause is the sprinkling of most thin drops, which the hand can scarcely perceive.

And the final cause, that (without rain) the earth may have some refreshment.

* *Trism. Phys.*
l. 6. c. 6.

Yet nevertheless, this I find concerning Dew, as it is of a calorifical nature, that * *vorilental segetes collectas putrefactas*, because every external heat is putrefactive.

How Sheep
may get a
deadly flux.

Also dew is a great enemy to sheep, begetting a deadly rot in them, or dangerous Flux of the belly; which cometh to pass in regard of the humour being of much viscosity, and not thoroughly refined or purged. Wherefore your careful and skilfull Shepherds will never drive out their sheep to feed, until the Sun or the wind have licked the tops of the Grasse and Flowers. Also know that a windy Night hindereth the falling of Dew. Some say three things hinder it; viz. Wind, great heat, and cold; for the most temperate and calm times afford it; when other times want it.

Hinderers of
dew.

And for the kinds of Dew, I cannot but joyn with them who divide them into three.

Three kinds
of dew.

For there is, common dew; secondly, sweet dew; and thirdly, bitter blasting dew.

The common Dew is ordinary.

Sweet

Sweet dew is threefold. 1. *Manna*. 2. *Mel*. 3. *Lada-*

nium.

Manna is said to be white like sugar: by some it is called *Calis sudor*. The matter of it is a fat and pure vapour, not tainted with any putred or corrupt Exhalations. Or, according to some, it is *rosus mellis genus, sed concretus*, a kind of honey-sweet dew, but concrete or compact more close together: it falleth in the East parts, *Arabia, Syria, &c.*

Manna.

As for that *Manna* which God raised to the Israelites in the Wilderness, some think that it was altogether miraculous: others that it was *ejusdem speciei cum Manna vulgari*, of the same kind with common *Manna*, which I also think; because *Josephus* in his third Book and first Chapter, writeth, that in his dayes there was great store of it in that part of *Arabia* wherein *Moses* was 40 years with the Israelites. What should hinder this opinion, I see not, unless because the common *Manna* is of a purging quality, and therefore to be taken for a Medicine rather than for Food. To which I * find an answer, that happily at the first it might work the like effect on their bodies also, till it expelled the humours proceeding from the onyons and leeks that they eat in *Egypt*; but afterwards through custom it might not work at all upon them: or else God, for their good, that they might be fed, might allay that quality in it by his mighty power: for God resting from all his works on the seventh day, created no new species of any thing afterwards. *Fuchsius*, a learned Physician, testifieth that there falleth great store of *Manna* upon the Mountain of *Libanus*, which is eaten without harm, although they take it in plentiful abundance. Yet nevertheless it cannot be denied but that the Israelites had many things miraculous in theirs: as that they could not find it on the Sabbath day: that he which gathered little, and he that gathered much, had always sufficient for his eating; and the like: All which

Of the Israelites *Manna*.

* *Conferimus*
on *Exod.*

The Israelites
Manna was
not without
miracle in many respects.

R

pro-

Psal. 93. 25.
16.

How *Manna*
is said to be
Angels food.

Myrrhina is a
wine mixed
with Myrrh,
and other
sweet spices.

How *Manna*
is said to come
from Heaven.

Honey-dew.

proclaimed the power of God: in which regard he saith that he fed them with *Angels* food. Not that the Angels eat of it; but it was *cibus excellentissimus*, a most excellent kind of meat; insomuch that were the Angels to be fed with bread, they might be fed with this. In which sence, we also call that which is dainty meat, meat for a King, or a Prince, intimating the goodness of it: So also the Poets called their *Myrrhina*, or their *Nectar*, the drink of the Gods, because it was a liquor of such excellency. But besides this, the Scripture in like manner saith that it was bread from Heaven, as well as Angels food. Not that it came from Heaven, if Heaven be taken in a strict sence; but because it was a symbole of Christs descending from Heaven, as it is *John* the 6. *Moses gave you not that bread* (saith our Saviour) *but I am that bread of Life come down from Heaven.* Or else it is said to come from Heaven, because it came out of the air: for so the Word signifying Heaven is often used; as the fowls of the air are said to fly in the open Firmament of Heaven, *Gen. 1. 20.* The Clouds are called the Clouds of Heaven: and the Winds, the Winds of Heaven, although they be but in the air, *Dan. 7.* And thus much concerning *Manna*.

The other kind of sweet Dew is *Mel*, or an *Honey-dew*.

Now this falleth not only in other countries, but also here in *England*; and we cannot give it a more significant name than a *Mel-dew*, being both as sweet, and also of the same substance that honey is. Some suppose that it is drawn out of sweet herbs and flowers, which I also believe, acknowledging that there is a kind of resudation of juice proceeding from them at a certain convenient time of their growth: which juice is either drawn up as a vapour, and so sweetneth the dew in the air by such time as it falleth; or else, issuing of it self from the said flowers and plants, but not ascending, it sweetneth the dew after it is come down or fallen on them

them, although the said dew be but ordinary: for vvhhen ordinary dew falleth upon any of those leaves vvhich yield such a refudation or sweat, it cannot but be sweetened, although none of the sweet liquor be drawn into the air as a vapour vvvith it. Now of these two choose vvhich in your judgment is the most probable.

^a *Pliny* witnesseth that these dews are most common at the shining of *Syrus*, or the great ^b *Dog star*; and that before the rising of *Virgilia* or the ^c *Seven stars* in the morning vvvith the Sun, they cannot at all be.

Ladanum is another kind of sweet dew, *Arabia* hath great plenty of it, and no other Country (as *Pliny* vvriteth) unless it be ^d *Nabatheæ*, bordering on the *Arabick Coast* of *Syria*.

It is called *Ladanum*, because it is a vapour falling upon the herb *Laden* or *Ledum*; and is sweetned by the juice issuing from the leaves of the said herb, mixing it self vvvith the vapour. Goats hairs are often found amongst it; because the Goat feeding upon that herb scattereth some of the hairs, vvhich are incorporated vvvith the vapour and juice of *Laden*, vvhillst like Gum it is hardened by the Sun.

And thus much of sweet dews.

Now followeth that vvhich I called bitter *blasting dew*. The *Germanes* say it is ^e *Mildaw*; vvhich is an improper name if it hath relation to that vvhich vve call *Mel-dew*. For *Mel-dew* (as before I shewed) is an hony-sweet dew, and not a bitter dew. This therefore may be rather named *Ros nectus*, or bitter *blasting dew*; because it hurteth and killeth such Herbs and Plants as it falleth on, and sticketh or cleaveth to. This vapour hath much earthly matter in it, and therefore it remaineth vvwhite vvhhen the moisture is gone. It is also corrupted: vvhich comes to pass (as tis conjectur'd) through the often change of the air, vvhich being tainted or infected through variety of differing *Exhalations*, sendeth down noysom and unwholsom dews

R 2

falling

^a *Lib. 11. c. 13.*

^b It riseth vvith *Sol* about the end of *July*.

^c Which is about the 17. day of *April*. *Ladanum*, the third kind of sweet dew.

^d *Plin. l. 12.*

^e *c. 17.*

Blasting dew.

^a *Magiv. Phys.*

Com. l. 4. c. 6.

falling sometimes even in the day time it self. And here an end concerning dew.

Artic. 4.

Of White hoar-frosts.

I Come now to speak of Frosts : for as Devv claimed kindred of Rain, so vvwhite hoar-frost is of the house and lineage of Devv : As for example thus. When a vapour drawn into the air is congealed before it can be turned into Dew, then vve have *Pruina* instead thereof, or a vvwhite hoar-frost : so that such a Frost is nothing else but Dew congealed by overmuch cold. * *Aristotle* affirmeth the like, shewing among other things, that both in respect of matter, and place of generation, they do vvell agree ; to vvwhich is also pertinent the calmness, clearness, and quietness of the time vvherein either of them falleth. For both of them consist of subtil thin vapours, and are generated in the lowest Region of the air, because upon some high hills there is neither hoar frost nor dew to be seen ; the vapour (as it seemeth) ascendeth not so high : And as for a windy obscure time, it is an Enemy to them both. The difference being, that hoar-frost is congealed in the vapour before it can be turned into water : The one caused in a season that is temperately warm ; the other when it is cold. The material cause therefore of hoar-frost is a subtil thin vapour. The formal, is the congealing of it ; by which it differeth from Dew. The efficient is the autumnal or Winter cold : for these are the most common and ordinary times peculiar to it, although sometimes it comes as an unwelcome guest in the Spring and Summer, when the air through cold is forward to send it. And last of all, the end, or principal effects, (when it cometh not out of season) or the final cause, is the contraction, or shutting up of the pores or breath.

* *Lib. 1. de Met.*

c. 10.

breathing holes of the Earth, and about the Roots of Plants; that thereby their spirits, being the Chariots of heat, may be contained in their own bowels for the good of such things as they give life unto. And thus much concerning frost.

Artic. 5.

Of Snow.

THere is no great difference between the matter of Snow, and matter of Rain and Hail; excepting (as some think) that the vapour for Snow is of an hotter quality than the vapour for Rain, and yet not so hot as that which is the material cause of hail. For it is a tenet amongst Philosophers, that hot things being cooled are apter for congelation than cold; as is seen in warm water taken from the fire, which will more suddenly and thoroughly be frozen than that which never felt the heat. And this comes to pass in regard of the pores or passages made into the water through heat: into which the cold entering, it both cooleth it the sooner, and congealeth it the more.

Neither is there any difference between white Frost and Snow; excepting that Frost is made of a vapour before it be turned into a Cloud; and Snow of a Cloud before it can be turned into water.

Snow therefore is a Cloud congealed by great cold, before it be perfectly resolved from vapours into water. For if it should come to the density of Water before the congelation, then it could not fall so like locks of Wood as it doth; but would be more closely compacted or joyned together, having little or no spunginess in it.

And for the whiteness, it proceedeth not from its own proper colour, but rather in respect of those parts which are more airy than the rest: Whereupon I find some

Hot things cooled are sooner congealed.

Arist. Met. 2.1. c. 11.

The matter of Snow.

Why Snow is white.

• Fulk: Mete.
ori.

• Flauvren.
com. in Arist.
de Met. l. 1.

Warm winters
barful,

Lib. 17. c. 2.

One and the
same cloud
may give the
mountains
snow, and the
valleys rain.

The reason of
sleet.

some • Authors who determine the case thus ; namely, that the white is by receiving the light into it at those many small parts ; even as in froth and some is seen. For, say some, *Nix est spuma quadam, Snow is a kind of froth* : and when it loses part of its frothy nature, and begins to melt, it loseth also part of that whiteness which at the first is retained. To this also may be added the coldness that is infused into it when it is congealed, as being a cause of whiteness ; even as in phlegmatick bodies and cold Countries may be seen : For such People are always whiter of complexion than others ; cold being the cause of that their whiteness.

Such Winters as are void of Snow, are not so good for the fruits of the ground, as more snowy winters. Whereupon • Pliny affirmeth, that he which saith clear Winters are to be wished, wisheth no good for the Trees and Plants : and in that regard your experienced husbandman desireth that the Winter may be cold and snowy, rather than clear and warm : For besides this they also say, that a hot Christmas makes a fat Church-yard.

Wherefore, to see the Earth do penance in a cold white sheet, and see the woods hang periwig'd with wool, bending their boughs in token of thankfulness to gray hair'd *Hyems* for their safety from the cold, is a sight both wished and welcome : the good whereof will shew it self, when liberal nature, out of her bounteous ward-robe, bestows more beauteous raiment on them.

And note it is found by experience, that it may snow on the Mountains, and rain in the valleys, and yet both come out of one and the same cloud : which comes to pass for this reason, because the snow coming from the middle Region melteth after it comes into the lowest Region : for here is always more heat than above where the Snow is generated ; yet not always heat enough to melt the snow as it falleth : neither will the congelation be always so weak, as to suffer it. And thus also it comes to pass that we have sometimes sleet, which is snow and rain together.

More.

Moreover (as some affirm) Crystal is made of snow: for when the snow melteth upon the tops of high hills, and is afterwards frozen again, it then becometh so hard that it is a stone, and no other than that which we call Crystal.

Crystal.
*Fulk Met.

Artic. 6.

Of Hail.

Hail is said to be ingendred of rain being congealed into Ice, the drops freezing presently after the dissolving of the cloud.

Or (as some say) a cloud resolved into water, in the fall congealed, maketh hail.

Aristotle assenteth to the same, affirming that the material cause is rain; the remote a cloud; the efficient an *Antiperistasis*, or a mutual adverse strife between cold and heat; as in the first book of his *Meteors*, at the 12 chapter, may be seen: affirming moreover, that the precedent heat of the water whereof it is made, helpeth to the speedy concretion of it: being agreeable to that which I said before concerning snow; namely that it consisted of a warmer vapour than rain, and yet not of one so warm as that from whence hail proceedeth.

Whereupon I think we may make this a conclusion concerning hail, and say that it is an hot vapour drawn into the middle Region of the air; where, by cold of that Region, it is made thick into a cloud, which falling down in drops like rain, is presently met withal and encountered by the sudden cold of the lowest Region, and so congealed into a kind of Ice. Now this sudden cold thus meeting with it, is in the highest part of the lowest Region, and caused by an *Antiperistasis* of heat from below, which forceth up the cold to the greater augmentation of it; and so (because the vapour it self at the first was

Winter hail,
how and
where it is
made.

vvas also vvarm) it doth very speedily turn it into ice : for seeing (as hath been said) it vvas formerly vvarm, it is the sooner cooled ; because heat having made it thin, and full of passages, gives leave to the cold, both to pierce it more suddenly, and also more soundly. And this most commonly is the manner of generating hail.

But knowv that hail may sometimes also be made in the middle Region ; and then it is vvithout an *Antiperistasis* : of vvhich sort for the most part is that small and spungy hail falling in Winter, vvhen there is no such heat in any part of the air, by vvhole *Antiperistasis* it may be congealed. For seeing the drops are scarcely come to the density of vvater before their congelation, as also seeing they are something swollen through the spirit of the Exhalation, they appear not onely round, but also light, and hollow, or of a spungy substance, little differing from the matter of Snow, being generated in the middle Region as well as this kind of hail. And thus comes hail in Winter.

But at other times of the year, the hail being more stony, or better hardened, it may vvell be caused by an *Antiperistasis* proceeding from the heat of this lowest Region, vvhich sendeth up, imprisons, and augments the cold above it.

The sundry
fashions of
hail-stones.

And know that hail stones are not always of one and the same bigness, but are variable according to the quantity of the drops vvhereof they be made ; the cause vvhereof is their propinquity or remoteness from the earth, as vvas shewed before concerning the different drops of Rain. And for the most part, know that they be also round, because the drop is so. Yet nevertheless they be sometimes knotted and piked vvith many corners ; or else fashioned like a *Pyramis* : the last of vvhich shapcs proceedeth from the spirit of the vapour vvhich ascendeth to the top of the drop so soon as the lowest part of it toucheth the congealing cold ; and so ascending, it makes it smaller above than below. And

as for the triangled, knotty, or many-cornered shapcs they are caused thus, viz. when many are suddenly congealed and frozen into one.

Note also, that sometimes little straws, or light chaffie stuff, is found within the stones; coming thus to pass, because they were at the first blown up from the earth by the Wind, and mixed with the vapour.

And again know, that sometimes you may see hail-stones all icie and clear without, having within them (as their centre) little white round spungy parts. The reason of which is, because those white ones within were generated in the middle Region: but in their fall justling themselves against the drops of rain which uncongealed came from the same Cloud, they gat a watery substance on their out-sides, which being frozen to them looketh clear like ice, and so makes the whole conglomeration appear in the shape and fashion before mentioned.

Moreover it hath not seldom been that hail hath done much hurt. Yet evermore the greatest fear is whilst the ripe Corn standeth in the ear. For a violent storm of hail thresheth it so thoroughly, that turning the words a little, we may truly say, *Illa seges demum votis non respondet avari agricola*. Such a storm was felt in many parts of this Kingdom not long ago, namely in the year 1631; which, about the beginning of harvest (beside the harm it did to other things) untimely beat out much Corn in the Fields to the great damage of many People. And at sundry other times also heretofore the like sad accidents have been. Wherefore the ancient husbandmen amongst the Heathen (as *Cato* and *Pliny* mention) had certain charming verses to keep hail and other dreadful calamities from their Fields; in which they shewed themselves of a like mind unto those Devilish enchanting hags, who made the Poet sing, *Carmina vel celo possunt deducere Lunam*, Charms can pull even the very Moon out of Heaven. But this was not all: For

Hail doth many times much hurt.

How the heathen used to secure their fields from hail and other harms.

beside these, *Palladius* also makes mention of others who would take the skins of Crocodiles, *Hyena's*, or *Calves*, and lay them here and there about their grounds? or else have a bloody *Az* lifted up in threatening manner against the Heavens; or an Owl set staring up, with her feathers spread abroad. All which are but magical, devilish, and absurd practices: such, as even an old docting Woman (whose confidence is in the sheers and the sieve) cannot but acknowledge to be void of any the least shew of reason: fit therefore for Heathens onely, and not for Christians. For let Christians know that there is a God above, who can better secure their seed sown, than all those magick spells and foolish fopperies. For,

** A fruitful Land he maketh barren, because of the wickedness of those who dwell therein. Or, as it is in the 28. of Deuteronomy, If thou shalt hearken diligently unto the voice of the Lord thy God, to observe and to do all his Commandments, &c. then shalt thou be blessed in the City, and in the Field. Blessed shall be the fruit of thy body, and the fruit of thy ground. But if thou wilt not hearken unto the voice of the Lord thy God, cursed shalt thou be in the City, and cursed in the Field. Cursed shall be thy basket and thy store. Yea, and cursed shall be the fruit of thy body, and the fruit of thy Land.*

* *Psal. 107. 14.*
33.

Charms unlawful.

Beside, add unto this the danger of devilish practices, with the unlawfulness of charms and incantations. For thus again the Scripture speaketh, *There shall none such be found among you. For all that do these things are an abomination to the Lord; as it is Deuteronomy 18. at the 10, 11, and 12. verses.*

Here then I end this discourse concerning hail, and now proceed to speak of milts.

Artic.

Artic. 7.

Of Mists.

Concerning which, I like their division best who make two kinds of mists; the one ascending, the other descending.

That which ascendeth (saith Dr. Fulk) goeth up out of the Water or Earth as smoke, but seldom spreads itself any thing far; being most of all seen about rivers and moist places.

The other (saith he) namely, that which goeth down towards the Earth, is when any vapour is lifted up into the air by heat of the Sun, which, not being strong enough to draw it so that the cold may knit it, suffereth it to fall down again after it is a little made thick; and so it filleth all the air with gross vapours, obscuring the Sun from shining on us.

Now this last kind of mist may be twofold; either congealed, or incongealed. That which is congealed comes near to the nature of that matter whereof white Frosts consist; and is never but in a very cold time: it is never also stinkew, which perhaps comes to pass in that the matter whereof it is made was drawn out of lakes, or other muddy and stinking places. Or thus; the matter of this mist hath much earthy substance in it, which the hindring cold suffereth not to be consumed: and from this comes an unpleasant and an unwholesome smell. This water, as also the water of dissolved Frost, is very bad for Cattel to drink; for it will quickly rot them. Neither can it be good for any one to walk abroad in such a misty time: For, by breathing, we draw this unwholesome vapour into our bodies; and so corrupt our lungs extremely. But for incongealed mists; they are in warmer and more temperate seasons, coming near the nature of that

The descending mist is two-fold.

Why mists and fogs stink.

How by a mist
to judg. of the
weather.

matter which is the matter of dew. Some call it a sterill vapour hanging near the earth, being neither moist enough to drop like rain, nor yet hot enough to be carried up on high into the air. Yet as sterill as it is, sometimes we find that it is but the forerunner of rain: For when it departeth, if it ascendeth, then rain followeth; if it descendeth, then expect a hot and fair day. And here, an end concerning mists.

Artic. 8.

Of our Ladies threads, or those things which fly up and down the air like spiders webs

And that's
the reason why
(when it hangs
on the stubble,
or the like places)
we see so
many little
spiders busie
in it: for the
matter doth as
it were feed
them, and
(perhaps)
through the
Sun-beams,
generate
them.

For mine own part I must confesse I have not seen many who have writ any thing concerning this cobweb-like kind of Meteor; and therefore at the first I rested doubtful, not knowing whether it were best for me to speak any thing of it or no. But at the last finding that some false tenets were engrafted amongst the ignorant, as if they perfectly knew what thing it was, I thought good to add something whereby their fond Spinosis might be taken away, who, as in a dream, suppose it to be spurt from out the spiders bowels: which cannot but be a strange absurdity. For it is evident that some one of these threads containeth more matter than many spiders; their bodies not being big enough to afford a thing so copious: neither are their webs at any time of such a length, or their threads of such a thickness, as those thus flying about the air.

This Meteor therefore (since it is a Meteor) may rightly be supposed to proceed out of a through-boyled or digested vapour, being mixed with earthy and slimy Exhalations; and although it be no Spiders web, yet the temperature of it little differeth from that viscous humour, and slimy excrement which they in their spinning send out from them.

As for the time, it appeareth neither in Summer nor in Winter, but in the Spring and Autumn; because it requireth a temperate heat and temperate driness. Yet the chief time is Autumn, because the air hath then some dry reliicks of the late Summers Exhalations left; and they are very necessary towards the tempering and generation of this Meteor.

And thus I end, not onely this Article, but the whole Paragraph also; coming at length to speak of that third kind of Meteor which in the beginning I propounded to be handled last.

Sect. 2. Parag. 7.

*Of Aiery Meteors; wherein is shewed the natural
cause of winds.*

Artic. 1.

Of the divers opinions concerning wind.

IN the former Paragraphs and Articles pertinent to the second Section of this Chapter, I spoke at large (as is apparent) of every sort, both of fiery and watery Meteors: now therefore (if you please) you may go along with me to those that are called aiery; wherein I purpose to speak concerning the generations of winds, shewing upon what causes they depend. And by the way I would have you observe a packet of opinions which have been posted to and fro as if they were pertinent to the purpose.

1. For some in the first place may be found, who immediately refer the motion and generation of winds unto God, because the winds are said to be brought out of his treasures, as you may read, *Psal. 135. 7.* And in the 4. of *Amos*, at the 13. verse, *He formeth the Mountains, and Createth the Winds.*

The first opinion.

To

Answer.

* Deum dicis,
Deum producere
ventos de the-
sauris suis, hoc
tantum innuit,
ventorum mate-
riam & exha-
lationem in ter-
ra tanquam
thesauro in in-
fam esse, unde
Deus ventos
producit per
causas interme-
dias & natura-
les, quæ sunt
calor solis &
terra. Haven-
teur.

* Psal. 74. 17. 18.

A second opi-
nion.

* Psal. 104. 3.

* Ibid.

* Psal. 18. 10.

* Ibid. vers. 14.

To which I make this answer, that they who send us, concerning these and the like things, to God and to his decree in nature, or to the might of his power, have said indeed that which is primarily true, but not shewed how it is secondarily effected; for although concerning some things extraordinary, the cause be hid, yet such as be ordinary are not wrought by the first cause without an administration of the second. As for example, God is not onely said to bring the Winds out of his * Treasures, but also to send forth the lightnings with the rain; as it is in the forenamed Psalm; yet nevertheless the Prophet *Jeremy* sheweth that these are wrought, not immediately, but mediately, by the help of secondary causes; as in *Jer. 10. 13.* *He causeth the vapours to ascend from the ends of the Earth.* By which it appeareth, that he maketh not the Rain without them, but of them; those ascending vapours being the matter of Rain. And again; * *The day is thine, and the night is thine, thou hast made summer and winter:* as in the Psalmist. Yet nevertheless we know that the day and the night, together with the seasons of the year, are not made but by the motion of the Sun and Stars; as it is in *Genesis 1. 14.*

2. Wherefore in the second place, seeing God worketh these things by means, the motion of the Winds is attributed to the Angels, it being supposed that instrumentally they perform Gods will in this, causing the Winds to blow, &c. Whereupon the Psalmist is again alledged; shewing that the * Clouds are Gods Divine Chariot; the Horses carrying it are the * winds; the Coachmen are the * Angels, whom God calleth Cherubims; and his Darts are hot * Thunder bolts, which he casteth from the Clouds. And furthermore, that Angels cause the winds, St. *John* declares it also, *Rev. 7.* in affirming that he saw four Angels standing upon the four corners of the Earth, holding the winds that they should not blow. The Angels therefore move the winds.

To

To which again it is answered, that neither is this opinion sound.

Answer.

For first, concerning the Psalmist, what doth that Prophet but in a figurative speech express Gods swiftness in coming to succour him?

And secondly, for the four Angels standing upon the four corners of the Earth to keep the Winds from blowing, I marvel that it can be taken so near a literal sence.

Napier, in his comment upon the *Revelation*, confesseth that the Jews indeed have certain books of antiquity, dividing the Government of the Earth among four great Angels, and under them they imagine to be many inferiour ones. But he withal acknowledgeth that they are assertions more curious than certain. And therefore he understandeth by these four Angels, the good Angels of God; and the four Winds he expoundeth to be the spirits of Satan, and Executors of vengeance. For in a figurative sence, these and the like things are to be taken.

Besides, the irregularity of the Winds, turning sometimes three or four times in a day, doth sufficiently shew (as is elsewhere witnessed by another Author) that they are not immediately governed by any intellectual substance; for in their actions you may observe a greater constancy, and more certain law.

3. Wherefore leaving this opinion also, I come to a third; wherein I find that Wind is nothing else but the flowing and reflowing, or motion of the air, having no other material substance than the very thin air it self.

A third opinion.

To which it may be answered, that this opinion, although better than the former, cannot float far before it sink, and will therefore drown him in an error who sticketh to it. For, as **Aristotle* testifieth, we fall into other absurdities upon the admittance of this tenet; (or else we dissent from them who maintained it of old)

Answer.

Metaph. l. i. c. 13.

Wind is more
than the mo-
tion of the air.

old) imagining thus, that when the air is compelled to move, we have wind; when it standeth still, it is thickened into a cloud; when it raineth, it is condensed into water: all which is very idle.

For furthermore, if the Wind were nothing else but the motion of the air, then it would necessarily follow that all and every air moved should be wind: but all and every moved air is not wind: therefore wind is more than the moved air.

Havenreuter, in his comment upon *Aristotles* *Meteors*, proveth the assumption by this similitude. Even as every flowing water (saith he) although there be great plenty of it, cannot be called a River, but that onely which ariseth from a Fountain, or hath some certain beginning of fluxion: so also, not all and every air, moved by one kind of means or other, can be called Wind, but that onely which is as it were derived from some beginning or Fountain. As for example, the air which is turned about by the Heavens, is moved, yet it was never called wind. And again, in a bloody bulleting fight, the air is forced and stirred by the thundring sound of Guns, and yet no Wind is raised by it.

Besides, make wind to be nothing else but the moving of the air, and then there can be no sufficient reason given why we should have greater plenty of winds at one time than at another; nor yet why they should blow from this point or corner, rather than from that. In which regard they also are confuted who suppose that the motion of the Heavens moveth the winds: for if they were moved by the Heavens, then the wind must blow alwayes one way, and never turn into a differing corner. But it followeth.

Another opi-
nion.

Another opinion (and this is the last that I mean to mention) maintaineth that the winds do actually reside somewhere, and are shut up as in a prison, from whence they have sometimes liberty for a while, but at length they

they retire and betake themselves to their Dens or Caves again. This the Poets aimed at, when they * made *Eolus* the God of the winds, affirming that he kept them close, or let them loose at his pleasure. Whereupon *Homer* may be remembred, who brings in *Ulysses* speaking of the said *Eolus* thus: -- *But he gave me* (saith he) *an hollow bottle or leather bag, made of the skin of a nine year old Ox, in which he bound the blasts of the stormy tempestuous Winds.* Or as * *Ovid* speaks of *Jupiter*, who had a commanding power over all the other Gods;

*Protinus Eoliis Aquilonem claudit in antris,
Emitteque Notum; madidis Noius evolat alis.*

He forthwith shut the Northern Wind
within *Eolus* Den;
And loose he lets the Southern Wind,
which flies with moistned pen.

Now this last opinion, although the Poets have turned it into a fiction, is not so bad as it seems to be. For take all *cum grano salis*, as is said, and then it will appear, that the Wind is in some sort shut as within a Den, and although not loosed by *Eolus*, yet by *Helios* (which is the Sun) doth indeed help to let it loose from out the bowels of the Earth; drawing it into the air, and above the ground; where we may feel it fan our faces; sometimes churlishly, as if it were angry; sometimes gently, as if it were pleased. But of the several kind of blasts I shall speak afterwards; and therefore let them now rest until I meet them.

*The reason of which fiction was, because the Clouds and mists rising about the seven *Eolian* Islands of which he was King, did always portend great store of winds.

* *Metamor. l. i.*

Artic. 2.

What Wind is ; upon what causes it dependeth ; and how it is moved.

FROM the falshood of the former opinions I come to declare the truth concerning the generation of Winds ; affirming that Winds are generated by vertue of the Sun , which causeth an hot and dry Exhalation to be evaporated , or aspired out of the Earth. Unto which some * add the power and operation of certain subterranean fires , which are as an antecedent cause : or *causa ægrediens*, of the said windy Exhalations : yet so , as being come near to the *superficies* of the Earth, the Sun provokes or stirs them up to come abroad, being therein *causa ægrediens*, or the moving cause ; for the Sun , as a Porter , rarifies the *superficies* of the Earth, and thereby openeth the pores and passages of it, through which the matter of wind comes forth, and flyeth side-long over the face of the earth. And if at any time it happen that these Exhalations can have no way made them , but are kept close Prisoners ; they then (by striving to get out) shake the Earth, which makes sad mortals always fear , sometimes suffer , and not seldom wonder.

* *Hyd. de orig. font. cap. 3.*

The cause and effects of an Earthquake.

The definition of wind.

* *Mas. L. 2. c. 4.*

Wherefore wind may be thus defined ; namely that it is a certain plenty of hot and dry Exhalations void of pinguid matter ; which being partly aspired , and partly exhaled out of the Earth , are driven about it , lest the air should be corrupted.

The matter then , we see , must be an exhalation. The quantity of it must be copious : and so * *Aristotle* also witnesseth : affirming that in the generation of Winds, there is a concourse of many Exhalations, by little and little begetting a large mass of matter. The quantity of which

which matter must be hot and dry, not mixed with any fatty substance: for if it were of a pinguid nature, then it would be enflamed like lightning; seeing lightning is an hot and dry Exhalation and like unto this, save onely that it containeth great plenty of fatty matter, such as is not amongst the matter of wind.

Unto which add this observation, that a meer earthy Exhalation is never the whole matter of wind. For it draweth up many mixed vapours with it, as may be seen if we call to mind the storms and showers which often happen upon the allaying of a wind. For that part of the Exhalation which is more moist and vaporous than the rest, is thickned and condensed into a rainy Cloud, whilst the other is either drawn high into the upper Region, or else quite wasted, dispersed and consumed.

Also know that the air may increase and augment the Exhalation after the motion is begun, and to the blast seemeth the greater. For the Exhalation cannot but drive some part of the air before it; then followeth other some after it, lest there should be vacuum.

And furthermore; in that I assent to a twofold efficient cause of wind, viz. the beams of the Sun attracting, and also some certain subterranean fires expelling, it is not without reason: for it evidently appeareth when the Sun hath either little or no force to draw up an Exhalation, that then we have often great blasts; as those Northern Winds in Winter, and boisterous blasts, which happen in the night above our Horizon, when the Sun is under it. And unto this may be also added the secret influence of the Planets, who being in such or such a position do powerfully cause the Earth to afford the air great store of windy Exhalations. As for example: the aspect of *Jupiter* (especially his conjunction) with the Sun, causeth great Winds; producing also (as they may be placed) Thunder and hail, as well

Why it useth
to rain when
the wind is
down.

The air moved
augments the
wind.

as fair Weather. And as for *Mercury*, if he be aspected either with the Sun, Moon, or *Jupiter*, in *Gemini*, *Libra*, or *Aquarius*, it is evermore an infallible sign of wind, unless there be some other general and more powerful influence to cross it : for, as some have found it, general influences may hinder those which are particular.

How the
Winds are mo-
ved, and by
what.

But come now to the motion of Winds. I said before in their definition, that they were driven about the Earth and now it may be demanded, how that motion is, and from whence it proceedeth?

Their motion is a lateral or side-long motion, caused through the aspiring of the Exhalation and detraction of the air. For the Exhalation is hot and dry, and drawn up by the attractive power of the Sun and other Stars; whereupon, whilst it tendeth towards the middle Region of the air, it is beaten down again through the coldness and density of that place; and so, with a refracted and dis-joynted force, it is driven hither and thither, and not suffered to fly up, nor willing to fall down in respect of the great levity in it: and having as it were divided the contention between both (viz. the cold of the air, and heat of the Exhalation) neither overcoming other, it flieth, not directly up, nor directly down, but laterally or obliquely: for it is *held to be a kind of Axiom, that those things which are moved partly by force, and partly naturally, move themselves obliquely. By which reason lightning also, shooting Stars, and the like Meteors, fly not directly down, nor up; but side long, as the wind; unless it be, that when they consist of Heterogeneous parts, or parts of a divers kind (which some also attribute to the matter of Winds) they then, through the strife of those their elevating and depressing parts, have a transverse motion as before.

* *Havement.*
de Met. l. 2. c. 4.

Where the
motion of the
Wind begin-
neth.

The place from whence this motion of the Winds beginneth, is from above.

First, because the motion must necessarily begin from that

that place vvhither the Exhalation is carried, as is seen In a vapour turned to Rain.

Secondly, because all those things vvhich have great force, there, vvhether they have their greatest force, are not far from their head or beginning of motion : but the Winds have their greatest force in places up on high: therefore there they begin their motion as *Havenreiser* proveth.

Thirdly, know that the redness of the Sky, and all other visible signs of Wind, do declare that some Spirits or windy Breathings are above, vvhich in short time will be turned into blasts. For redness is a token of the aduotion of the Exhalations in the Air : and the breaking of a circle about the Moon from some one side or other, doth also shew the Wind that is above, but not as yet come down unto us. The like also doth the swift motion of a single Cloud in a clear Sky when we feel no blast below.

Besides, the hot and dry Exhalation we know is carried first upright, and cannot therefore move obliquely until it be encountered : wherefore the motion beginneth in the Air above, and not in places here below.

And yet some imagine that certain particular vvinds, Particular Winds. vvhich are known onely but in some Countries, have their immediate motion from out the caverns of the Earth, vvithout any ascent into the sky : and this they prove, because the blast bloweth not far, but is like the Wind that cometh out of a pair of Bellows, strong near the coming forth ; but far off, is not perceived.

Upon thought of vvhich let it also be known, that the blowing of the Wind sometimes one way and sometimes another vvay, dependeth upon no other cause than upon the situation of the place from vvence exhalation ariseth : and that it is sometimes stirred up one vvhere, sometimes another vvhere, proceedeth from the operation of the heavens.

Why the Wind bloweth not always one way.

Also know, that Winds diametrically opposite cannot blow.

Opposite winds.

blow together under one and the same Horizon with a continued blast. For if they be of equal strength, the one will be as powerful as the other, and so not one give place to either. Or if their forces be unequal, then the one will overcome the other, and so the conquered must upon necessity give place to the Conqueror, and rather joyn unwilling forces with him, than be against him.

Oblique
winds.

Yet nevertheless, if they be obliquely contrary, they may blow together; and by how much they are the more oblique, by so much they stir up the greater strivings and tempestuous blasts.

Whisking
winds.

But if the Exhalation be little, tenuous, or thin, then we have onely a pleasant whisking wind, such as may be called *aurea*, by which the air is gently moved.

The matter of
wind not ob-
vious to the
sight.

Also know, that it is as possible to see the Wind as the air, their substances being too tenuous to be perceived; unless in a storm-wind, whose matter is an Exhalation so thick that it darkens the air; of which more shall be spoken afterwards; as also of Whirlwinds, and the like.

* Fulk.

Last of all (as it is observed, and found by experience) the * general profit of Wind, by the unspeakable wisdom of the eternal God, is wonderful great unto his Creatures. For, besides the alteration of the weather and change of seasons, from driness to rain, from rain to driness, from cold to heat, from heat to cold, with Frost and Snow, which all are necessary, there is yet an universal commodity that riseth by the onely moving of the air: which were it not continually moved and stirred, would soon putrefie, and being putrified, would be a deadly poyson and infection to all that breath upon the Earth. Wherefore, although we know not the particular place from whence it is raised, or where it is laid down, as * Christ meaneth, *John* the third: yet it teacheth the admired providence of the Almighty; insomuch that we may worthily cry out with the * Psalmist, and say, *Oh Lord, how manifold are thy works! in wisdom thou hast made them all.*

* *Iste locus vult,
quod ventus
sensibus depre-
hendi nequeat;
& certus locus,
ubi ventus flare
incipiat & de-
finat, notari non
possit: Un enim
vires tantum
sentiantur. Ha-
venient.*

* *Psal 104. 24.*

Artic.

Artic. 3.

Of the division of winds, and of their names and number.

THE Ancients *as *Pliny* witnesseth) observed only four Winds, East, West, North, and South: but the following Ages added eight; making the whole number to be twelve: Four whereof were principal, and called *Cardinal Winds*; because they blew a *quatuor mundi cardinalibus*, from the four quarters of the World: The other eight they called *Lateral*; because they were (as it were) side-companions with the former four.

The Cardinal (1. *Solanus*, *Subsolanus*, or the East wind. shall were 2. *Notus*, *Auster*, or the South wind. called by 3. *Zephyrus*, *Favonius*, or the West wind. these names. 4. *Aquilo*, *sepientrio*, or the North wind.

And again, the Lateral were called by these names that follow, and thus placed from the Cardinal.

As first, the East hath on the Southern side *Eurus*, or *Eulirurus*: and on the Northern side *Caurus*, or *Helle-sponius*.

Secondly, the South Wind hath on the East side *Phoenix* or *Euronotus*: and on the West side *Lybonotus*, or *Austro-Africus*; so called because it declineth from the South something towards *Africa*.

Thirdly, the West hath on the South side *Lybi*, or *Africus*; so called from *Lybia* and *Africa*, the Regions from whence they proceed: and on the North side there is *Cornus* or *Caurus*, called also * *Japix*, and *Olympius*; be-cause it bloweth from the Mountain *Olympus*.

Fourthly, the North hath on the West side *Cyrcius*, called also *Thrafcias*, from *Θεω. conuerto*, because it useth to overturn many things with it. The Spaniards call it * *Gallicus*, because it is observed to blow from the coasts of new *Gallicia*, a Mexican Province. And on the East side of the North point there is blustering *Boreas*, which

* *Plin. l. 2. c. 47.*

* *Origen. de es-
te. c. 3.*

* *Ibid.*

* *Liv. 2. c. 23.*

The Mariners
reckon 32.
winds.

which is a bellowing wind, blowing with a loud hollow sound; and is therefore derived by *Aulus Gellius* in his * *Attick nights*, *ἀντὶ τοῦ βόου καὶ ἰού*. This division *Aristotle* also assenteth unto, making three winds in every quarter; as in the second book of his *Meteors*, at the sixth chapter, may be seen.

But the Mariners make 20 more besides those; inso-much that the whole circumference of the Horizon is divided into two and thirty equal parts, vvhich they call and distinguish by several names. And now observe in this division, that there be four Cardinal winds, as before: four middle vvinds, vvhich are just in the midst between each Cardine: eight lateral, already mentioned: and sixteen collateral: making in the whole sum, the aforesaid number of two and thirty.

Know therefore that the Cardinal, and middle vvinds, are properly the principal: the other being less principal and subordinate, divided therefore into lateral and collateral; as hath been mentioned.

And as for those middle ones, they be such as we call South-West, South-East, North-West, and North-East winds. *Notolybicus* is the South-west wind; and *Notapeliotes* the South east. *Borrbolybicus* is the North-west wind; and *Borrbapeliotes* the North east.

The rest, being sixteen in number, and collateral, have their places one between each of the other: and so the circumference is divided into 32 parts, as before shewed. Now the names of these sixteen are borrowed from those laterals with whom they have the greatest neighbourhood, by * adding *Meso* and *Upo* to them. For *Meso* comes from *μέσος*, *medius*; because it is in the middle between a principal and a lateral vvind: and *Upo* comes from *ὑπο* *sub*; because it is as it were subject to that lateral wind next unto which it is placed, and from whence it taketh the name. As for example: *Eurus* is a lateral wind, a little from the East towards the South: and this hath on each side of it one collateral.

That

* *Orig. Ephe. l. de offi. c. 6.*

That which is between *Notapeliotes*, or the South-east wind and it, is called *Mes'eurus*, being middle between a principal and a lateral. But that which is between the East, and it, is called *Up'eurus*, as being subject unto *Eurus*. And by observing this order you may give names unto all the rest; for *Meso* and *Upo* will compound them.

Yet nevertheless ordinarily the Mariners name them thus. As *North*, *North and by West*, *North North west*, *North west and by North*, *North West*, *North west and by west*, *VWest North VWest*, *VWest and by North*, *VWest*. *VWest and by South*, *VWest South VWest*, *South VWest and by VWest*, *South VWest*, *South VWest and by South*, *South South VWest*, *South and by VWest*, *South*; *South and by East*, *South South East*, *South East and by South*, *South East*; *South East and by East*, *East South East*, *East and by South*, *East*. *East and by North*, *East North East*, *North East and by East*, *North East*; *North East and by North*, *North North East*. *North and by East*. And then *North* again, as in the beginning.

Artic. 4.

The nature and quality of the VVinds.

IT may well appear by that which already hath been written concerning the generation of VVinds, that every wind in it self, or in respect of the matter causing it, is of an hot and dry quality. If therefore, blowing from any quarter, we find it other, it is by accident, and not through any inherent property; for VVinds do evermore participate of the nature of that place by which they pass: If by snowy Mountains, than bring they with them the cold of those Mountains; if by marshes, contagion; if by woods, their blast is broken; if by sandy plains, they are warm; if by moist watry places, they are wet.

And therefore for particular VVinds, the * *Panormi*

* Winds blowing into the Haven and famous City of *Panormus*, or *Palermo* in *Sicily*.

* In a book called a general description of the World.

* *Orie. Ephem. deffib. c. 5.*

Their qualities according as they commonly blow.

North qualities.

in *Sicily* are extreame hot : for before they pierce thither, they scoure through the plains of *Sicily*; and taking heat from the Sands, they carry it into the City. The South wind at *Genoa* is cold, because it passeth the Sea, and taketh coldness thereof without touching the Land before it arive. But the North Wind which bloweth through *France* (saith * one) cometh from the Sea, and taking some measure of heat by the saltness thereof, and finding no Mountains covered with Ice or Snow in his passage, augmenteth his heat by passing over the Fields of *Normandy*, *Champaigne*, the Isle of *France*, and other Provinces, even to the Hills of *Auvergne*; which being moderately heated by the south wind on the one side, and the North wind on the other, bringeth forth every where excellent pastures, and feedings for Cattle and Sheep, besides divers sorts of medicinable Plants and most perfect simples. Also in * some places it is found that the Eastern Wind moisteneth, and the Western Wind bringeth drought; and in other some the Western moisteneth, and the other drieth. So that it is possible for one and the same wind to have a divers quality; although not in it self, yet by accident; as at the first was mentioned.

Yet nevertheless generally, and in most places, the North and his associates, is cold and dry; the South, with his Companions, is warm and moist: and the East, with his adherents, is far more dry than the Western and his nearneighbour Winds.

The reasons whereof may be. First, for the North, because it bloweth over many snowy Mountains, and ariseth from a climate which hath little neighbourhood with the Sun, where the vapours be few, and the Exhalations many that arise out of sundry Islands by the way. Unto which adde, because the Exhalation passeth not far before it come at us, that therefore it seldom bringeth Rain; for the Exhalation hath not enough to spend the dryest portion of it, so as the South wind

wind doth; who passeth both over more watery places, and also cometh further before we feel it.

Secondly, for the South wind, it cometh over the Mediterranean Sea, out of which the Sun begets abundance of watery vapours, which mix themselves with the winds, causing them thereupon to be the blowers in of Rain. And as for their heat, it is because they blow from the Equator where heat is most predominant. Also know, that a long and gentle South wind may sometimes cause clearness and fair weather, most commonly in the Summer season, because it is by nature hot; and therefore blowing for a certain space, it so warmeth the air, that the vapours which otherwise would produce Rain, are not suffered to be knit, but are attenuated and made so thin that they come to nothing; or being any thing, they prove onely barren Clouds, affording little Rain.

Souths quality

Thirdly, the East wind is found to be the dryest, because it cometh over a great continent of Land lying towards the East, out of which many dry and earthy exhalations are drawn. In Winter these winds are very cold and freezing; but in Summer they are pleasantly warm, but healthful; and if at any time they blow up rain (which is not ordinary) they then continue it by the space of a whole day; even as the like also sometimes happeneth from the North. The reason of which I take to be, because (perhaps) their laterals, not being absolutely of the same quality, may arise together with them, and so bring Rain; especially, if at the same time there be any other working in nature apt to moisten the sky with vapours. For it is affirmed that *Eurus* on the one side, and *Cæcias* on the other side, being two lateral winds pertinent to the East, do naturally raise Clouds, and often turn them into Rain; as do also *Upocæcias*, and *Mes'urus*, their collaterals. And so also *Cyrcius* may do, and *Borrbolybices*, being on the west side of the North, if either of them happen to arise and joyn, al-

East quality

Why the East and North Winds sometimes bring rain for a whole day.

Westwinds
quality.

though but weakly, with the Northern blast. For in their own sole blowings they beget both Snow and Hail; either of which may fall down in drops of Rain, when the mixture of qualities is found to be divers.

Fourthly, the VVestern wind is far more moist than the East, because it passeth over the great Ocean of the Atlantick Sea, vvhich must needs cast out many vvatery and moist vapours, and they cannot but beget Rain and Showers. It is said also to be of a cold temper; but surely not of an absolute coldness: for it is found by experience that a direct *Z-phyrus* or *Favonius*, vvith their collaterals, *Mesocorus*, and *Up'africus*, are vvarm and pleasant, bringing sometimes hot Showers, sometimes vvarm and clear vvether. And therefore it is determined by certain Authors, that this VVind may blow from a cold place, and yet bring heat. For although (in regard of the place over vvhich it cometh) it be cold; yet in respect of the time vvhen it usually bloweth, it is hot. VVhich* *Horace* also pointed at, saying,

* *Eid. 1. warm*
id. 2.

Solvitur acris hyems grata vice veris & Favoni.

The VVinter sharp is loos'd by the kind

Return of Spring, and of the VVestern VVind.

Or vvill you hear vvhat others say? *Lemnius* (as *Ori-ganus* relateth) affirmeth that this VVestern wind and his collaterals are of a changing temper. For although in the beginning of the Spring they be pleasing and gentle, and are found to recreate and cherish all things, seeing they are warmed by the moderate heat of the Sun, which makes them bring out the beauty of Trees, and Flowers to the view of the World; and also causeth the blood and good humours to appear, which in VVinter lay hid, as if they vvere not; casting away also the Clouds of the mind begetting jocundness in the heart; yet nevertheless, Autumn ending, and the circuit of the year enclining to Winter, the aforesaid vvinds do blow unkindly, striking the Sea and Land, vvith many a tempestuous blast, and unwished breathings.

More-

Moreover, this also may be observed, that the long continuance of the vvinds in any of these quarters, procureth these and the like effects.

As first, the East vvind breedeth in cholerick bodies sharp fevers, raging madnes, and perillous apostumations.

Secondly, the South vvind breedeth corrupt humours, and in hot bodies Cramps, giddines in the head, or the Falling sickness, Pestilence and cruel Fevers, viz. vvhen they blow long in the vvinter. This is held to be the most unwholsome vvind.

Thirdly, the VVest vvind breedeth phlegm in moist bodies: it procureth sleep, causeth Apoplexies, and the like: and is never so churlish as vvhen vvinter begins to approach.

And last of all, the North vvind is good against the Pestilence; and yet in cold bodies it breedeth Plurisies, Coughs, Gouts, and (in some) Squincies and sore Throats: but yet of all vvinds it is held to be the vvhollofomest, although it be sharp in our vvinter months.

And this also note, that a continual Still Summer is a sign of Plague or Earthquake: for a standing air putrieth, and an enclosed vvind shaketh the ground.

The effects of a long-continuing vvind, at certain seasons.

Artic. 5.

Of Whirlvvinds, Storm-vvinds, and fired vvindvvinds.

A Whirlvvind, is a Vvind breaking out of a Cloud, rowling or vvinding round about; vvhich may be caused two manner of vvays. A sign of plague and earthquake.

First, vvhen two or more contrary vvinds blowing from divers places, meet together.

Secondly, vvhen the matter of Vvind, being an hot and dry Exhalation, breaketh out of a Cloud in divers parts of it, coming through the said holes vvith more than an ordinary violence. Or rather thus; Imagine a windy

windy Exhalation bursting out of a Cloud, to be so driven, that by the vva it happeneth to be pent between two Clouds on either side of it; against vvvhich, beating it self, and finding a repercussion, it is forced to turn and vvvhirl about; even as we see in the Streets of Cities, vvhen the vvind is beaten from two walls, and meeteth in the midst of the Street: for then there is made a little Whirl-puff, vvvhich vvwhisking round about taketh up the dust or straws and bloweth them about, as doth the great and fearful Whirlwind it self; vvvhich hath brought not onely amazement and terrour to mortals but also much harm and mischief. * *Pliny* is perswaded that Vinegar thrown into one of these blasts vvill break it, because Vinegar is of a cold quality, and the Exhalation hot; and therefore the one is as it vvvere quelled and quenched by the other. The Greeks call a Whirlwind * *τὸ φων*; the Latinists *turbo* or *vortex*.

Also a sudden Stormy-wind is called by the Greeks *εὐρυπνία*; and by the Latines, *Procella*; and this happeneth, either when a windy Exhalation is thrown down and encompassed in a thin course of Clouds newly overcast, or else when a windy Exhalation is come to an extraordinary thickness, and violently moved with a Cloud, to the darkening of the air, vvithout inflammation or burning; for when it burneth they call it *πυρρε*, a *πυρρε* *incendo*, to burn, or set on fire. And this last is that which we call a fired Whirlwind, being an exhaled blast set on fire either by an *Antiperistasis*, by repercussion, or violent detruſion from the Cloud vvherein it vvvas enclosed; for it is made apt to be fired in regard that it consisteth of an Exhalation vvvhich hath more fatty substance in it than other Winds vvvhich burn not: And know that it differeth from lightning chiefly in these respects: first, because lightning consisteth of a more subtil and thin matter; for although a fired Whirlwind have a more thin

* *Lib. 2. c. 48.*

Typhon
* *τὸ τυφόν*,
quod est verberare.

Εὐρυπνία.

Prefter.

thin spirit or blast than a Whirlwind, or a Stormy wind; yet it is not so tenuous as the spirit of *fulmen*, or lightning. Secondly, because lightning is more flamy and less breathy; the one having more windy spirits in it than the other.

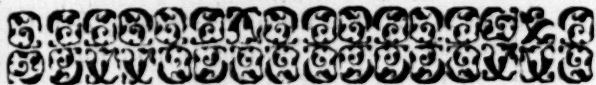
The Conclusion of this Dayes Work.

ANd thus at the last I have let you take a view with me of what is pertinent to this Dayes work. We have seen (good Reader) the framing of the out-spread Firmament, with the lifting up of the waters over it: we have examined the nature of the Heavens, and scarce found them of a quint-essence: we have searched what Heavens they were which *Moses* meant, when he said, *God called the Firmament Heavens*. From thence we proceeded to the several Regions of the Air, examining their temperatures and qualities; and thereupon we fell into an ample consideration of such appearances as are usually seen in any of those Regions; discoursing at large both of fiery, watery, and airy Meteors.

And this being all which this day affordeth, I may here make an end, and say.

A conclusion
repeating the
sum of this
dayes work.

*That Eve and Morn were now the second day,
And in his work God findeth no decay.*



CHAP. VI.

*Wherein is contained a Survey of the
Third Dayes Work; together with
such things as are pertinent to it.*

SECT. I.

*Shewing into how many main parts the business of this day
may be distinguished.*

Æneid, l. 1.

BEing come from the Second to the Third
Dayes work, I cannot say with * *Virgil*
now,
Ille ego qui quondam gracili modulatus avena
But rather on the contrary,
Ille ego qui superis volitabam nuper in oris,
Nunc humilis sequor arva soli, nunc tenuis a presso
Ore loquor----

Because in the former day, the Work belonging to it, compelled my winged pen to soar aloft, not suffering her to come unto the ground till now. For she was to walk above the Firmament, and view the out-spread buildings laid in the flowing waters; then through the Regions of the liquid air she was to trace a path; which finished, she must be content to frame her self unto a lower pitch, before any leave be granted to ascend again.

gain. And indeed I think it is what both she and I desired ; for we were long detained there.

And now, having both of us obtained our wishes, we find that Gods inspired Pen-man, holy *Moses*, so setteth down the admired work of his Almighty maker, done on this third day of the World, that into three main parts it may be severd: for by viewing the words which he hath written of it, the same will be apparent. *And then (saith he) said, Let the waters under the Heaven be gathered together unto one place, and let the dry-land appear: and it was so.*

And God called the dry-land Earth, and the gathering together of the waters called he Seas: and God saw that it was good.

And God said, Let the Earth bring forth grass, the herb yielding seed, and the fruit-tree yielding fruit after his kind, whose seed is in it self, upon the Earth: and it was so.

And the Earth brought forth grass, and herb yielding seed after his kind: and the tree yielding fruit, whose seed was in it self, after his kind: and God saw that it was good.

And the Evening and the Morning were the third day.

This is the sum of all; which (as before was said) consisteth of three several parts.

The first whereof concerneth the gathering together of the waters, in these words, *And God said, Let the waters under Heaven be gathered together unto one place.*

The second concerneth the drying of the ground, in these words, *And let the dry-land appear.*

The third is pertinent to the sprouting and springing of the Earth, in these words, *And God said, Let the Earth bring forth grass, the herb yielding seed, and the fruit-tree yielding fruit after his kind, &c.*

All which in their orders are severally to be discussed, together with such other things as are pertinent to the said division.

And concerning the two first, observe that God bestows as it were surnames on them; calling the gathering together of the waters, Seas: and the dry-land he calleth Earth.

SECT. 1.

Of the gathering together of the Waters, which God called Seas.

WATER and Earth are the two lowest Elements; and this was that day which brought them to perfection: for untill now they were confused; because their matter, although not quite void of form, received at this time a better form of due distinction and more comely Ornament. The infirmity was expressed before, when *Moses* said that the Earth was void and invisible, because covered with waters: but the formitie is then expected and declared when the waters are gathered, and the dry-land made apparent.

It is a wonder (sure) to think what a confused tyrannie the waters made by their effusion; for they did rather tyrannize than orderly subdue or govern this inferior miry mass: wherefore it seemed good to the Almighty Maker, first to divorce one from the other, before he gave them leave to be joyned each to other, that, both together might make one globy body; which (according to the best approved Writers) is one and twenty thousand six hundred miles in compass.

But concerning this gathering together of the waters there arise certain questions, which may not altogether be forgotten.

As first, it is enquired, How the waters gathered together?

Secondly, How it can be said that they were gathered to one place; seeing there be many Seas, Lakes, Rivers and Fountains that are far asunder?

Thirdly,

Questions concerning the waters which are said to be gathered together.

Thirdly, Whether they be higher than the earth.

Fourthly, Whether there be more Water than Earth.

Fifthly, Whether the Earth be founded upon the waters.

Sixthly, Why the Seas be salt, and Rivers fresh.

Seventhly and lastly, What causeth an ebbing and flowing in the Sea, rather than in Rivers.

Concerning the first of these questions, those who think that there be no *Anisopodes*, supposed the waters did run together and cover the other part of the earth which is opposite to this where we dwell. But the experience of skilful Navigators, and famous Travellers, yea, and reason it self, doth cry against it.

Others imagine that it was some mighty Wind which dried them up; or that the fervent heat of the Sun effected it. But both think amiss; because the dry-land (saith one) appearing all at once, was so prepared by a greater power than either of the Wind or Sun, which could not work it at once, nor scarcely in a long continuance of time: neither was the Sun made untill the next day after. *Dixit igitur & factum est*; he spake the word only, and by the power of that word it was done. For the efficient cause of the sea was the only word of God; the material was the Waters; the formal was their gathering; and the final partly was, that the dry-land might appear. *Ezekiels* * Wheels were one within the compass of another: and so was the Earth, Water and Air, before the powerful word of God commanded this their gathering: the Earth within the Water; the Water within the Air; and the Air within the Concave of the Firmament. Which if they had all for ever so remained, and Man made as he is, the world had been no house for him to dwell in, neither had it been a work so full of never ended admiration as now it is.

Perhaps the pores and holes of the ground were full before this gathering; yet nevertheless their bodies must

Quest. 1.
Which sheweth how the waters were gathered together.

* *Ezek. 1. 16.*

• Job 38. 10.

be willing to be made the beds for more. That they were full, it proceedeth from the nature of the Water, falling downwards and filling them. That being full, they are yet made capable of more, might proceed both from a more close compofure of the not hollow parts of the earth, and *also* by making these waters thicker than they were before. For whilst the not hollow parts were made more solid, the hollow could not choofe but be * enlarged: and whilst the thin and vapoury Waters were better thickned and condensed, the outface of the ground could not be obscured, but shew it self as one releafed from out a watery prison. Some add unto this their heaping together in the high wide Seas, whereby it cometh to pass that they flow to and fro at Floods and Ebbs, and do often force out Water-springs from the highest Mountains: which last, whether it be so or no, shall be examined afterwards.

Quest. 1.

Shewing how they were gathered to one place.

The next question was, how it can be said that they were gathered to one place; seeing there be many Seas, Lakes, Rivers and Fountains that are far asunder?

It was a strange conceit of him who thought that this one place unto which the waters were gathered, was separate so from the Earth, that the waters by themselves should make a Globe, and have their proper centre; for leaving to descend towards the centre of the Earth, they were gathered to a centre of their own, and so the dry-land appeared.

• Esay 40. 22.

But this opinion is very false, and worthy to be reckoned amongst absurdities: for (as the * Prophet *Esay* writeth) the Lord is said to *sit upon the circle of the Earth*. Now experience sheweth that it is not the Earth alone, but the Earth and Sea together that make one globe or circle.

This one place then whither the Waters were gathered, was not a place separated from the Earth, being in the air or elsewhere, but was in the very body of the Earth it self. Neither was it one place strictly taken, as if it meant

meant one point or angle of the Earth . or, as if there were no *Antipodes*, half the Earth under us was to be covered with Water.

But rather it is called one place, because in the whole globe of the Earth, every place is either Water or Land : or (if not so) because there is but one body of all the Waters that are : for every part of the Water is joyned unto the whole as it were with Arms , and Legs , and veins diversly dilated and stretched out. So that either under the Earth, or above the Earth, all the Waters are joyned together : which also the Wise man witnesseth. *Eccles. 1. 7.*

But haply some may think , because this gathering together of the waters is called Seas, that therefore the one place, unto which they were gathered, is not to be understood of every collection or gathering of Water, but onely of the Sea.

Well, be it so. And if this rather than the other be the meaning of *Moses* his words, it may be answered, that although the Sea be divers in name, yet all Seas are so continued together, that one Sea is perpetually joyned with another : and thereupon the same given, is not *Sea*, but *seas* ; as in the Text is manifest.

Yea and hereupon it also is, that Geographers make these waters come under a fourfold division. For they either call this gathered Water, *Oceanus*, *Mare*, *Fretum*, or *Sinus*

1. *Oceanus*, the Ocean, is that general collection of all Waters, which environeth the World on every side.

2. *Mare*, the Sea, is part of the Ocean, to which we cannot come but through some strait.

3. *Fretum*, a strait, is a part of the Ocean restrained within narrow bounds, and opening a way to the Sea.

4. *Sinus*, a Creek or Bay, is a sea contained within a crooked shore, thrusting out (as it were) two arms to embrace the lovely presence of it.

Object. But perhaps you will say that the *Caspian* Sea

is a Sea by it self, and therefore all Seas joyn not the one unto the other.

Answe. To which it is answered, that this Sea is either as a * lake in respect of contiguous or joyning Seas; or else it was no Sea in the beginning of the World, but began only at the ceasing of the Floud, and was caused by the Waters coming down from the *Caspian* hills, settling themselves in those declivie and bottomy places where the said Sea is. *Pliny* and *Solinus* are perswaded that it joyneth it self unto other Seas by running into the Scythian or Northern Ocean through some occult passages under ground; which is not improbable. But howsoever, this we are sure of, that the River *Volga* is joyned to it, being as another Sea, and having no less than seventy mouths to empty it self: which River is also joyned to the River *Don*, and that hath great acquaintance with the *Euxine* Sea. Besides, *Volga* is not a stranger to * other Waters which fall either into the Scythian or Bakick Ocean: insomuch that it may be said, this *Caspian* Sea is tied (as it were) with certain strings to * three other Seas; and so, not only all VVaters are made one body, like as before I shewed, but (if this gathering must needs be referred to the Seas) even all Seas also shake hands, and by one means or other mutually embrace one the other.

* Dr. *Faul* in his *Met. l. 4.* saith that some lakes are so great that they bear the names of seas among which he reckoneth this *Caspian* Sea.

* As *Duina* major and *Duina* minor called also *Onega*. Look into the maps of *Russia* or *Muscovia*.

* *Viz. the Euxine, Bakick, and Scythian* or Northern Seas.

Quest. 3. Shewing whether the waters be higher than the Earth.

A third question is, VVhether the waters be higher than the Earth. Concerning which there be Authors on both sides; some affirming, some denying.

That they be higher than the Earth, it is thus affirmed.

First, because VVater is a body not so heavy as Earth.

Secondly, it is observed by Sailers, that their ships sic faster to the shore than from it; vvhence no reason can be given, but the height of the water above the land.

Thirdly, so such as stand on the shore, the Sea seemeth to swell in to the form of an hill, till it put a bound to their sight.

Fourthly,

Fourthly, it is * written of *Sesostris* King of *Egypt*, and after him of *Darius* King of *Persia*, that they would have cut the Earth and joyned *Nilus* and the Red Sea together; but finding the Red Sea higher than the land of *Egypt*, they gave over their enterprize, lest the whole Country should be drowned.

* *Herodotus* in *Eusebio* & in *l. sequent.*
Plin. l. 6. c. 19.

Fifthly, the arising of springs out of the highest Mountains doth declare it, because the Water cannot be forced higher than the head of the Fountain opposite to it. As for example. Like as we see a spring that riseth in an hill, conveyed in Lead unto a lower ground, will force his Waters to ascend unto the height it beareth at the Fountain: even so the Waters which stand above the Mountains, do force out springs of Water, by necessary and natural cause, out of the highest Mountains.

Sixthly, the * Psalmist doth witness the same, affirming moreover that God Almighty hath made the waters to stand on an heap, and hath set them a bound which they shall not pass, nor turn again to cover the Earth. And Jer. 5. 22. *Fear ye not me, saith the Lord; will ye not tremble at my presence, which have placed the Sand for the bound of the Sea, by a perpetual decree that it cannot pass it; and though the waves thereof rage, yet can they not prevail?* Thus on the one side.

* *Psalm* 104.

But notwithstanding all this, methinks the other part, (yet choose which you will) is most probable.

For first the water indeed is a body not so heavy as Earth, yet heavy enough to descend, not being of an aspiring nature, but presseth eagerly towards the same centre that a stone or any part of the Earth covereth: cannot therefore possibly be above the Earth, although not so heavy as Earth, unless there were no hollow places in the ground to receive it. But God Almighty, in gathering them, provided lodgings for them, lest they should turn again and cover the Earth: which also is insinuated by the Hebrew word *Kava* signifying to congregate

gregate or gather together: from whence the Latin word *Cavum*, hollow, may seem to be derived. Besides should it be alledged that the hollow places could not be deep enough to receive them, what were this but to curtail the Earths Diameter or thickness? for suppose the Waters stood above the hills before they were gathered to one place; yet know that even the Semidiameter of the Earth is deeper by no few miles than the highest Hill. Suppose you could imagine an hill to be above a thousand miles high (which is impossible) yet the Earths Semidiameter would be two thousand, four hundred, and above 36 miles deeper than that height. As for example; if the Earth be 21600 miles in compass, then the Diameter will be 6872 $\frac{1}{2}$ miles: and if the Diameter be 6872 $\frac{1}{2}$ miles, then the Semidiameter must be half so much, viz, 3436 $\frac{1}{4}$ miles.

Secondly, suppose it be observed by Sailers that their ships flye faster to the shore than from it: this proveth not the Sea higher than the Land. For know that it is no wonder to see a ship sail more speedily homewards than outwards; because when it approacheth to the shore, it cometh with a continued motion which makes it the swifter: but when it goeth from the shore it doth but begin its motion, and is therefore slower than before. This (if need were) might be proved by many plain and familiar examples.

Thirdly, suppose that the Sea seemeth, to such as stand on the shore, to swell higher and higher, till it put a bound to the sight; this rather proveth the spherical roundness of the Earth and Sea, than any thing else; shewing that both together make one Globy body. Which, why it is perceived rather in the water than the land, this may be a reason; namely, because the Sea, being a plain and liquid Element, and spacious enough, doth better shew it than the Earth, which hindereth our full view by reason of many Woods, Trees, and other fixed obstacles, which the sight meeteth and encountreth by the way.

Fourthly,

Fourthly, although *Sesoftris* King of *Egypt*, and after him *Darius* King of *Persia*, dared not to make a cut out of the Red Sea into *Nilus*, for fear of drowning the Country, because they supposed that the Sea lay three Cubits higher than the Land of *Egypt*: yet as some report, how truly, I cannot tell) the *Ptolomies*, Kings of *Egypt*, affected the work without any danger of inundation. But suppose they had not done it, or suppose it were granted that the Red Sea were higher than the plains of *Egypt*; yet it followeth not, (unless one swallow can make a summer) that the Sea in general is every where higher than the Earth. As for the height of the Red Sea above the Land near adjoining to it, *Aristotle* seemeth to give a reason, perswading himself that there is such a change in the universe, as that which hath been Sea is sometimes Land, and that which hath been Land is sometimes Sea, and so he thinketh of those low grounds near the Red Sea, that they have been gained from the Sea. The like we may also think of many places in the Netherlands, and of that small part of Sea which is between *Dover* and *Calis*; as *Verslegan* proveth on his restitution of decayed Antiquities, cap. 4. pag. 97.

Fifthly, suppose that certain springs arise out of the highest Mountains, must the Sea therefore needs be higher than those Mountains? surely I think not. For albeit I be not of *Aristotles* mind, nor of their opinions who do not derive the Rivers from the Seas, nor make subscription unto them who give a sucking and an attractive power to the veins of the Earth; yet I find it as a thing possible, although that part of the Sea which lieth opposite to the head of the Fountain, or to the place where the Water first breaketh out, be lower than the ground, that the said Water may nevertheless easily ascend, and not break forth until it find a place convenient. Now this ascent is caused by the Sea, which, seeing it is a vast body, is very ponderous and heavy, and cannot be thrust back by the Water at the head of the Fountain opposite

to it, but rather it doth potently and strenuously croud on the said water through the hollow ports and passages of the Earth, until at the last it springeth forth.

Were it so indeed that there were an equal weight of both waters (I mean of the Sea-water driving, and of the Spring-water arising) then the ascent of the one could not be higher than the *superficies* of the other: but seeing the weights are unequal (which *Cardan did not well consider) the stronger and heavier must needs drive on the weaker and lighter, causing it sometimes to ascend even above it self.

Sixthly and lastly, that which the Psalmist witnesseth concerning the standing of the VVaters on an heap, I take to be nothing else but the gathering of them to one place, so and in such a manner, that their coming together may be called Seas, and their forsaking the Land be called Earth: for if one place of Scripture be expounded by another, it will appear to be even so. First, because it is said, Eccles. 1. 7. *All the Rivers go into the Sea*: but the Water hath his natural course downwards, and cannot be forced up, but by the heavier weight; as hath been shewed. Secondly, because it is said Psal 107. 23. *They go down to the Sea in Ships*: down, as to the lower place; and not up, as to the higher. And for that alledged out of *Jeremy*, viz. *Fear ye not me, &c.* The Prophet speaks there of no miraculous work against nature, but of the ordinary providence of God by natural means, keeping back and bounding the Sea; as at the 24 verse is manifest. For there he gives the like instance of the Rain; which we know is not wrought by miracle, and yet it sheweth the watchful providence of God, preserving the VVorld by the natural course of the Creatures.

Judge then if they be not mistaken, who would have the Sea higher than the Earth.

The fourth question is, VVhether there be more VVater than Earth.

Now here I am perswaded that the answer may be either

De subtil. 2.

3. p. 123.

Quest. 4.

Shewing whether there be more water than Earth.

ther double or doubtful. For if we have respect to the known parts of the VVorld, then I think there may be more Sea than Land. But if we have respect to all, both known and unknown, then perhaps there may be as much Land as Sea: For we see that in the Maps of the VVorld, the Southern parts are not known, and therefore they vwrite *Terra Australis nondum cognita*: vvhich whether it be Sea or Land, is uncertain. *Pareus*, upon *Genesis* is perswaded that the Land is more than the Sea, alledging a proof out of * *Esdra*s, where it is said, that when God commanded the VVaters to be gathered, he gathered them into the seventh part of the Earth, and dried up the six other parts; which although it be Apochryphal in respect of the authority of the book, yet (saith he) it serves to shew that the vvaters are not more than the Earth.

* 2 Esdr. 6. 2.

The next question is, Whether the Earth be founded upon the Waters.

Quest. 5.

Shewing upon what the Earth is founded.

The Psalmist seemeth to affirm it, *Psal. 24. verse 2.* For (according to the common reading) it is, *He hath founded it upon the Seas, and prepared it upon the Floods.*

To vvhich it is answered, that if the Earth (as it is) be the receptacle for the Waters, or holdeth the Waters in the concavities of it, how can it be that the Waters are instead of a Foundation? *Job* saith, *He hangeth the Earth upon nothing*, chap. 26. 7. If upon nothing, then not upon the Waters, for they are something. And again; even the Psalmist also saith, *The foundation of the Earth cannot be moved*, *Psal. 104. 5.* If not moved, then not founded upon the Waters, for they are moveable; sitting to and fro, sometimes this way, sometimes that way, and never stand still.

VVherefore when the Psalmist saith, *The Earth is founded upon the Seas*, he meaneth that it is so placed above them, as that it is made fit to be a place for habitation: And so Expositors understand the Hebrew word *Gnal*; viz. in such a sense that it doth signifie *above*, and not *upon*: In which sense, the Waters that it sustaineth

do not hold it, but are holden by it; for they are in it *tantum in utro*, as in a certain Vessel; and do always strive to come as near the centre as is possible.

For conclusion then of this question, thus much must be known; namely, that when God made the World, he made * all things in number, weight, and measure: in-
 * Wild. ii. 30.
 * Job 26 7.
 somuch that the earth (although it be hanged upon * no-
 thing) is so equally poysed on every side, that it cannot
 but be firmly upheld; and no more fall than the Sun out
 of the Firmament, or the Stars out of Heaven. For hath
 not Man sometimes shewed an admired portion of skill
 in this or that rare work which he hath wrought, and
 effected by nothing else but onely the deep and pro-
 found rules of Art? yea surely hath he. And if man be
 so potent as to make his skill admired, yea, and by those
 who are Men as well as he; what may we think of the
 Maker of Men, but that his art is much more than com-
 mendable, and his wisdom much more than matchless;
 so that the World, and all the parts thereof, afford no-
 thing but matter of wonder? Is it therefore an acclama-
 tion which deserves impression in the hearts of us mortal
 men? *Oh God how manifold are thy works! in wisdom thou
 hast made them all:* And being made, his providence doth
 sustain them.

The sixth question is concerning the saltness of the Sea,
 and freshness of Rivers.

Aristotle, in the second book of *Meteors*, at the third
 chapter setteth down (besides his own) three opinions
 concerning this saltness. One whereof is, that the wa-
 ters overflowing the Earth in the beginning of the
 World, were so dried up by the heat of the Sun, that
 not onely the dry Land appeared, but all those Waters
 which remained (being the Sea) were so sucked and
 robbed of their sweet savour, that they could not but be
 salt.

Another opinion agreeing to that of *Plato*, who ge-
 ngerating the Sea *ex latrato*, or from great and deep gulfs
 in

Quest. 6.
 Shewing why
 the Sea is salt,
 and Rivers
 fresh.

in the Earth, or (with others) drawing it through the bowels of the Earth, gave occasion to think that the water in it self was sweet, and yet became salt by reason of the divers savours that it met withal in the ground or veins of the Earth. Which cause, by the* interpreters of *Aristotle*, is attributed to *Anaxagoras* and *Metrodorus*, as being pleasing to them. For as water strained through ashes is endued with a certain tart and salt kind of acrimony; so the Sea made salt by some such kind of Earth through which it passeth; which is as others have also thought who suppose that the saltness of Minerals doth much conduce to this purpose.

* *Havens. in*
Arist. de Meteor.
lib. 2. cap. 1.

A third was the opinion of *Empedocles*, who affirmed that the Sea was but the sweat of the Earth, being (as it were) roasted by the heat of the Sun; and was therefore salt, because all sweat is of such a flavour.

Now these three opinions *Aristotle* endeavoured to confute by several reasons, shewing other causes of the Seas saltness. And indeed had it been so with him that he could have repaired unto *Moses*, then had the first opinion been struck dead more easily than it was: because *Moses* would have told him that the drying of the Earth, and gathering of the Waters, were one day elder than either Sun or Stars.

And for the second, if it be taken in a qualified sense, it is not much amiss; for although *Aristotle* saith that if it be a true opinion, then Rivers will be salt as well as Seas, because they run in the veins of the Earth; yet know that all and every vein is not of one and the same temper; as is apparent by the differing quality of springing waters.

As for the third, it seemeth rather a ridiculous than Philosophical opinion; for sweat is but a small part of that humour contained in any body that yieldeth sweat; but the Sea is not the smallest part of humour in the body of the Earth; therefore it neither causeth the Sea, nor saltness of it.

But

* *Id. de orig.
mors. cap. 8, 9.*

* *Fig. under
the Water.*

The Sea made
salt by the sub-
stance of the
ground: that
is my opinion

But beside all these, there are other opinions also. Wherefore some again have attributed the cause to adust vapours, partly let fall on the Sea, and partly raised from it to the brinks and face thereof; others to the motion of the Sea: some to under-earth, or rather * under-sea fires of a bituminous nature, causing both the motion and saltness also: Others to an hot and dry aspiration exhaled out of the * Earth, and mixed with the water of the Sea.

But that which followeth seemeth absolutely the best, namely, that it is affected by the working of the Sun, which draweth out the purer and finer parts, leaving the grosser and more base behind; even as in this little World of our bodies, the purest part of our nourishment being employed in and on the body, the Urine and other excrements remaining do retain a perfect saltness. Unto which opinion they also assent, who affirm that the saltness is radically or originally in the matter of the Water; which must be so understood as the water hath in it an earthy kind of substance of a drying nature: which (as I suppose) was not first in the matter of the waters before they were gathered unto this one place where now they are; because, as is reported and written, there be salt mines in sundry places, as in a certain hill in *Barbary*, out of which perfect salt is digged, and used for salt after it is made clean, and beaten small. All which do greatly commend the providence and wisdom of God: For it is not unlike but that the Sea was by his wisdom and providence gathered into such salt valleys of the Earth, as were otherwise barren and unfruitful: with which substance, the gathered water being mixed, must needs partake both of an earthy matter, and also of a salt savour; yet so, as this salt savour cannot be drawn out, and sensibly perceived in the mixture of many sweet humours joyned with it, without a separation first made by the heat of the Sun, of the thinner parts from the thicker: And so the Sun is a disponent, though not a productive cause of this saltness.

Now

Now this opinion may be strengthened by many reasons.

First, because Sea-water, when it is boyled, doth evaporate a dewy or watery humour, which being collected and kept together, hath a sweet taste or savour.

Secondly, because vapours drawn from the Sea and turned into Rain, are void of saltness.

Thirdly, because the Sea in Summer, and towards the South (as *Aristotle* affirmeth) is more salt than elsewhere; which cometh to pass in that the Sun, at that time and place, draweth away more of the sweet humours than at other times.

Fourthly, because the Sea is fresher towards the bottom, than at the top; as some have found by using practices to experience it.

Fifthly, because (as *Aristotle* again testifieth) if an empty vessel sealed up with wax, be by some means or other caused to sink into the Sea, and there let lie for a certain space, it will at the last be filled with very fresh and sweet water, issuing in through the insensible small pores of the wax; for by this manner of passing into the vessel, the thin is strained from the thick: yea by this means, the earthy and adust part, which carrieth the saltness in it, is excluded, whilst the other is admitted. For in every salt savour, two things are required; viz. an adustion, and an earthy kind of substance of a drying nature: both which are found in the Sea. For (according to the testimony of Physicians) Sea-water doth heat and dry more than other waters, and is also more ponderous or heavy; yea and it doth more easily sustain a heavy burthen, giving it less leave to sink than the fresh silver-seeming streams.

And thus we see how the Sea comes to be salt. It followeth to shew why Rivers be not salt, as well as Seas.

Now for the better explaining of this, the first thing considerable will be concerning the original of fountains and rivers.

Of Rivers; and
from whence
they proceed.

Aristotle

Arist. de Met.
lib. 1. cap. 11.

Aristotle handled them amongst *Meteors* of a watry kind, because he supposed that there was the same original of rivers within the earth, which was of watry *Meteors* in the air above the earth. For if this air (saith he) coming near to the nature of a vapour, is by cold turned into water; then the air which is in the caverns of the earth, may be, by the same cause, condensed into water also. According to which grounds, we cannot but make this the original of fountains and rivers; namely, that they are engendred in the hollow concavities of the earth, and derive both their birth and continual sustenance from the air; which piercing the open chinks or *Chasms* of the earth, and congealed by the cold of those places, dissolveth into water (as we see the air in winter nights to be melted into a perlie dew, sticking in our glass windows) and being grown to some quantity, it will either find a way, or make a way, to vent its superfluity. All which agreeth very well to the nature of the air, which seeing it is hot and moist, the heat being gone it is thickned, and so easily turned into water.

And as for a continual running of rivers caused by this water, it is (saith *Aristotle*) by a perpetual succession of new air.

But to this opinion we may not absolutely make subscription; for although air may be thus converted into water, yet the sole matter of rivers cannot come from hence: it may haply be an helping cause, but not a prime, or principal cause. For first, sith the air is a thin subtil body, there is necessarily required an abundance of air to make but a little quantity of water; insomuch that it is not doubted by some without cause, whether the dense and hollow places of the Earth be vast enough to receive so much air as can make water enough to run along, until it break out into a river or spring. Secondly, there be many fountains which have (as it were) a kind of ebbing and flowing at certain direct and set times, which

which they keep as constantly as the very Sea it self. As for example, among other strange Rivers, * *Pliny* makes mention of *Dodon Jupiters Fountain*, which evermore decreaseth from midnight until noon; thence it increaseth until midnight again. And in the Island *Dalus*, the Fountain of *Inopus* (as he also affirmeth) keeps his course with *Nilus*. Also he makes mention of a little Island in the Sea over against the River *Timavus* or *Brenta* in *Italy*, having certain Fountains in it which encrease and decrease, according to the ebbing and flowing of the vast body of *Amphitrite* or the Sea.

Wherefore the wise man *Siracides* thought more truly (*Eccles. 40. 11*) concerning these things; affirming that all things which are of the earth shall turn to the earth again; and that which is of the waters doth turn again into the sea. Which saying of his I do not say is much strengthened, but absolutely confirmed by one more authentick than it self; namely by that of *Solomon*, *Eccles. 1. 7.* where it is witnessed that all Rivers run into the Sea, yet the Sea is not full: unto the place from whence the Rivers come, thither they return again. Which testimony makes it plain that the Sea is the principal cause of all Rivers: and if therefore *Aristotles* * Aerial vapours have any thing to do in this generation, it is as much as nothing: yet that which they are able to do, I imagin they perform joyning themselves with the currents which come from the Sea; and so they run together in the veins of the earth, either until free leave be given them to come abroad, or that (like *Hannibal* in the Alps) they work themselves a way.

Now in this there is little or no difference between *Solomon* and *Plato*, together with the ancient Philosophers before him, although *Aristotle* dissenteth. For that which *Solomon* calleth the Sea, * *Plato* calleth the great * gulf of the earth: saying, Εἰς τὸ τοῦ χάσμα ὑψηλοῦ τοῦ πᾶντος ἐστὶν ποταμοί, καὶ ἐκ τούτου πᾶντες αἱ ἀρῆαι. id est, Ad illum hiatus & omnes fluvii conflunt, & ex hoc

L

necissim

* Lib. 2. c. 10.

* Aerial vapours are partly a cause of springs.

* *Galen. Di. spirit. Phys. cap. 19* ex *Plat. in Phaed.*

* *Plato* did but expresse *Aristotles* meaning *Gen. 7. 11.* in other words.

vacissim omnes effluunt: that is, Into this gulf all Rivers do both flow or assemble themselves, and also by their courses come or flow out again.

Flow springs
come to be
fresh seeing
the Sea is salt.

But what need more words? It is without controversy that Rivers have their first original from the Sea, that is the Fountain-head from whence all Fountains have their heads. Neither can the saltness of the Sea, and freshness of Rivers stop this current.

*Quia prope
mare salis
longius minus
procul, nitid.
Sic, exoritur.
30.*

For concerning springs, it is true indeed that they are fresh; and this freshness, notwithstanding their salt original, may be ascribed to percolation and straining through the narrow sponge passages of the Earth, which makes them leave behind (as an exacted toll) the colour, thickness, and saltness. So that you see, Sea-water (though in it self of a salt and brackish savour) by passing through divers windings and turnings of the Earth, is deprived of all unpleasantness: and by how much the spring-heads of Rivers are * remote from the Sea, by so much are their waters affected with a delightful relish: yea, and why they ascend up to the highest mountains, already hath been declared. Unto which may be added, that they come not with a direct course from the Sea unto those hills, neither do they ascend directly upwards on the sudden, but by degrees: and so winding themselves through many crooked passages and turnings, they do (as it were) scurve themselves up to the convenientest place of breaking out: and cannot go back, because the Sea is a far heavier body than the vein that cometh from it: even as the blood in our veins is nothing in proportion to the liver, from whence each vein of blood hath its first beginning.

The benefit
and use of wa-
ters.

But I draw towards a conclusion, adding in the last place, that of waters (be they Seas or Rivers) we have a threefold use and benefit.

First, that out of them drink may be afforded to man and beast; as it is Psal. 104. 11 *They give drink to every beast of the field: the wild Asses quench their thirst, &c.*

Secondly,

Secondly, that running through the Earth, as bloud through the body, by interlacing it, and sometimes overwhelming it, they make the Earth able to produce those fruits which are necessary for the life of man: which benefit of overflowing, so fattens the whole land of *Egypt*, that the Priests of that Country did thereupon ascribe the beginning of that time, or of every thing that now is, to that time of the year when their *Nilus* overflowed, or when it first began to lift up it self above the banks, and diffuse an ample portion of manuring bounty into the lap of the land, which is as good to them as if *Jupiter* should descend in a golden shower. And for other places, where there be no such luckie floods, there it is found that these bounteous watry bodies yielding vapours, do purchase for them such dropping showers of rain, that *the Valleys stand so full of Corn, that they laugh and sing*; and therefore these are great benefits challenging most humble thanks; as it is *Psal.* 107.

The third is, that they can quell the rage of the hottest element, and keep our mansions from cinders, or a flamy conversion into ashes.

The fourth is, that they yield us an easiness and speediness of conduct and traffick, by which each place partaketh of the blessings of every place.

Yea these, and many more, are the benefits of water, without which the life of man could not be sustained. But here I contract my sails and end this question; for by coming on the shore, I shall the better view that which remaineth concerning this liquid element. Wherefore it followeth.

The next and last question propounded, was concerning the fluxion and refluxion of the Sea, wherein I purpose (as near as I can) to shew, both why Seas have that alternate motion, as also why such murmuring Brooks and Rivers, as do not ebb and flow, are destitute of the foresaid courses.

Quest. 7.
Wherein is shewed the cause of the ebbing and flowing of the Sea

The motion of the Sea is either natural, or violent. The first it performeth on its own accord; the other it doth not, but by some external force compelling it.

The first, being a natural motion, is such as is in every other water; namely, that all waters do evermore flow into the lowest place, because they have an heaviness or ponderosity in them. And thus the Ocean naturally floweth from the North, where it is highest, unto the South as the lower place: for * there in regard of the great cold, the waters are not only kept from drying up, but also encreased, whilst much air is turned into water: whereas in the South, by reason of the great heat, they are always sucked up and diminished. Now this motion is called a motion of Equation; because it is for this end, namely, that the *superficies* of the water may be made equal, and distant alike on every side from the centre of gravity.

* Zanc. Tom 3.
lib 4. cap. 1.
quaest. 6. thes. 11.

Note that this is pertinent to the openest Seas, as the Atlantick and South Seas, and especially between the Tropicks, where is a constant easterly breath caused by the superior motions, which draw together with them not only the element of fire, but of the air and water also.

* De placit.
Phil. l. 1. c. 17.
* Dr. Fulk
Met. l. 4.

The other, being that which dependeth upon some external cause, is such as may be distinguished into a threefold motion. One is rapt, and caused by force of the Heavens, whereby it floweth from * East to West. The second is a motion of Libration, in which the Sea striving to poise it self equally, doth (as it were) wave from one opposite shore to another. And note that this is onely in such as are but strait and narrow Seas, being a kind of trepidation in them, (as I said before) a motion of Libration: just like the rising and falling of the beam of an equal-poised balance, which will not stand still, but be continually waving to and fro. The third and last is *Reciprocatio*, or *Aëstus Maris*, called the ebbing and flowing of the Sea.

The cause of which hath added no little trouble, nor small perplexity, to the brains of the best and greatest Philosophers. Aristotle, that Master of knowledge, helps us little or nothing in this question. And yet * Plinarch affirmeth that he attributeth the cause to the motion of the Sun. * Others have gathered from him that he seemed

seemed to teach, it was by certain exhalations which be under the water, causing it to be driven to and fro according to contrary bounds and limits. But howsoever he taught, or whatsoever he thought, this we find, that nothing troubled him more. For (as **Cælius Rhodiginus* writeth) when he hath studied long about it, and at the last being weary, he died through the tediousness of such an intricate doubt. *Some say he drowned himself in *Negropont* or *Enripus*, because he could find no reason why it had so various a fluxion and refluxion, ebbing and flowing seven times a day at the *least: adding, before that his untimely and disastrous precipitation, these words, *Εὐρίπῳ Ἀριστοτέλης ἔδωκε τὸν Εὐρίπῳ, Εὐρίπῳ ἔδωκε τὸν Ἀριστοτέλην. Quandoquidem Aristoteles non cepit Euripum, Euripus capit Aristotelem*; that is, *Although Aristotle hath not taken Euripus, yet Euripus shall take Aristotle*: meaning that that should end him, whose cause could not be comprehended by him.

But leaving *Aristotle*, we shall find a little help from his master *Plato*, who (as did also the Stoicks) attributed the cause to the breath of the World. Such also have been the phancies of others; among whom *Kepler* may not be forgotten, whom in good earnest affirmeth and believeth that the earth is a great living creature, which with the mighty bellows of her lungs first draweth in the waters into her hollow bowels, than by breathing respire them out again. A pretty fiction this; and well worthy the pen of some fabling Poet, rather than to be spoken in good sober sadness, and affirmed as a truth.

Others would have the cause to be by reason of waters in the holes of the earth forced out by spirits; which comes something near to that before concerning the breath of the World.

A third sort attribute the cause to the circular motion of the earth; affirming that there is daily motion of the earth round about the Heavens, which it performeth in 24 hours: the Heavens in the mean time onely seeming

to

* *Antiquarum
lectionum lib.
29. cap. 8.*

* *Iust. Mart.
Greg. Naz.
Aschani orat.
contra Cres.
L. V. a Dia-
log. de lib. ar-
bitrio, &c.*

* *Livie* saith
that it is not
seven times a
day; but semore
in modum venti
nunc hinc illuc
rapitur, lib. 8.
dec. 3.

to move and not moving in very deed. This opinion came first from the *Pythagoreans*, and is defended by the *Copernicanians* as an effect of the foresaid motion. As for example; the earth moving swiftly round, the water not able to follow the motion, is left behind, and caused to flow to and fro; like as in a broad shallow vessel may be seen; for put water in such a Vessel, and let it be swiftly pulled forward, and then you shall see that by being left behind, it will beat it self against the one side, before the other can at all partake of its company: and so it is also in the Earth, leaving the waters behind whilest it moveth.

The Earth
hath no circu-
lar motion.

But if this opinion be true; First tell me how it comes to pass that the sea doth not ebb and flow alwayes at one and the same time, but altereth his course, and is every day about one hour later than other. Secondly, shew me why the tides are at one time of the month higher than at another. Thirdly, let me be informed why broad Lakes and large Rivers do not flow as well as Seas. Fourthly, let me be rightly instructed how it comes to pass that things tend to the Earth as their centre, if the Sun (as *Copernicus* and his followers imagine) be the center of the World. Fifthly, shew me why the air in the middle Region is not rather hot than cold; for surely if the Earth should move round with a diurnal motion, as they maintain, then the middle Region must be either far higher than it is, or else the air would be so heated by going round, that the coldness in it would be either little or none at all; for it is a ruled case, that *Remotio à motu circulari dat quietem, frigiditatem, & gravitatem; sicut propinquitas dat motum, calorem, & levitatem*: and thereupon it comes to pass that we have coldness in the middle Region, the cause first beginning it being in respect of the hills which hinder the air from following the motion of the Heavens; as in * two several places of the second dayes work I have declared. Sixthly, I would also know why an arrow being shot upright should

Fig. chap. 4.
sect. 2. and
chap. 5. sect. 2.
Parag. 1.

should fall near upon the same place where the shooter standeth, and not rather fall beyond him, seeing the Earth must needs carry him far away whilst the arrow flyeth up, and falleth down again: or why should a stone being perpendicularly let fall on the West side of a tower, fall just at the foot of it; or on the East side, fall at all, and not rather be forced to knock against it? We see that a man in a Ship at Sea, throwing a stone upright, is carried away before the stone falleth; and it it be mounted up in any reasonable height, not only he which cast it, but the Ship also is gone. Now why it should be otherwise in the motion of the Earth I do not well perceive. If you say that the Earth equally carries the Shooter, Air, Arrow, Tower and Stone; then methinks you are plainly convinced by the former instance of the ship: or if not by that, then by the various flying of Clouds, and of birds; nay, of the smallest Grasshopper, Fly, Flea, or Gnat, whose motion is not tied to any one quarter of the world, but thither only whither their own strength shall carry them: some flying one way, some another way at one and the same time. We see that the wind sometimes hindereth the flight of those pretty creatures: but we could never yet perceive that they were hindered by the air; which must needs hinder them if it were carried always one way by the motion of the Earth; for from that effect of the Earths motion, this effect must needs also be produced.

*Arm'd with these reasons, 'twere superfluous
To join our forces with Copernicus.*

But perhaps you will say it is a thing impossible for so vast a body as the Heavens to move daily about the Earth, and be no longer than 24 hours before one revolution be accomplished: for if the compass were no more than such a distance would make as is from hence to Saturns sphere, the motion must extend, in one full

* *Lanberg.*
quintess. in
motu suo 7
triplic.

scruple or minute of time, to 55804 miles; and in a moment, to 930 miles; which is a thing impossible for any Physical body to perform.

Unto which I must first answer, that in these mensurations we must not think to come so near the truth, as in those things which are subject to sense, and under our hands: For we oft times fail, yea even in them, much more therefore in those which are remote, and (as it were) quite absent, by reason of their manifold distance.

Secondly, I also answer, that the wonder is not more in the swiftness of the motion, than in the largeness of the circumference; for that which is but a slow motion in a little circuit (although it be one and the same motion still) must needs be an extraordinary motion in a greater circle; and so, I say, the wonder is not more in the motion than in the largeness of the circumference. Wherefore, he that was able, by the power of his word, to make such a large compassed body, was also able so to make it, that it should endure to undergo the swiftest motion that the quickest thought can keep pace with, or possibly be forged in imagination: For *his works are wonderful, and in wisdom he hath made them all.*

Besides, do but go on a while, and adhere a little to the sect of *Copernicus*, and then you shall find so large a space between the convexity of *Saturns* sphere, and the concavity of the eighth sphere (being more than 20 times the distance of *Saturn* from us, and yet void of bodies, and serving to no other purpose but to save the annual motion of the earth) so great a distance, I say, that thereby that proportion is quite taken away which God the Creator hath observed in all other things: making them all * in number, weight and measure, in an excellent portion and harmony

Last of all, let me demand how the earths motion and Heavens rest can agree with holy Scripture. It is true indeed (as they alledge) that the grounds of Astronomy
are

are not taught us in Gods Book : yet when I hear the voice of the everlasting and sacred Spirit say thus, * *Sun stand thou still, and thou Moon in the valley of Ajalon.* I cannot be perswaded either to think, teach, or write, that the Earth stood still : but the Sun stood, and the Moon stayed, untill the people had avenged themselves on their enemies : Neither do I think after this that it was the Earth which went back, but the Sun upon *Ahaz* his Dial in the dayes of *Ezekias*. For when God had made the Earth, what said he ? did he bid it move round about the Heavens, that thereby dayes, weeks, months, and years might be produced ? No. What then ? This was its office, and this that which it should do ; namely * bud and bring forth fruit for the use of Man. And for motion, it was absolutely and directly bestowed upon the heavens and stars : witness those very words appointing to the sun and moon their courses ; setting them in the heavens so as they should never rest, but be for signs, and for seasons, for dayes and for years. And so also the wise * *Siracides* understood it, saying, *Did not the Sun go back by his means, and was not one day as long as two ?*

I conclude therefore, and concluding cannot forget that sweet meditation of a religious and learned * *Prelate*, saying, *Heaven ever moves, yet is that the place of our rest : Earth ever rests, yet is that the place of our travel and unrest.*

And now, laying all together, if the cause be taken away, the effect perisheth. My meaning is no more but thus ; that seeing the earth is void of motion, the ebbing and flowing of the Sea cannot be caused by it, but dependeth upon some other thing.

Or again, were it so that the earth had such a motion, I should scarce believe that this ebbing and flowing depended on it. For (as I said before) if this were the cause, it could never be that the course of ebbs and floods should keep such a regular alteration as they do

* *Joh. 10. 12. 13.**Ezay 38. 8.** *Mosis 11772*
is nothing but
Germinatio
*11772.**Gen. 1.** *Eccles 46. 4.** *Basil. Fall.*

day by day : Neither cou'd it produce a cause why the tides should be more at one time of the month than at another : Nor yet (as some suppose) could the waters be suffered to flow back again, but always must be going on as fast as they can, towards the Eastern part of the World. But I leave this, and come to another.

It was a mad phancy of him who attributed the cause to an Angel, which should stand in a certain place of the world, and sometimes heave up the Earth above the waters, sometimes constraining it to sink below them. In an ebbe, he heaves it up; and in a flood he lets it sink.

As improbable also is that of some others who imagine one Angel to be an Angel of the Water, whose office is (as in the pool of *Beithesda*) to move the waters to and fro : and for proof of this, that place is alledged the * Revelation, where when the vials were poured out upon the kingdom of the beast, one of the Angels is called an Angel of the waters. But know that the same answer made before concerning the moving of the winds, will serve to stop this gap. Or were it so that we must be tied to a literal sense, the compulsion overthrows the assertion ; because he is called an Angel of the waters, not for that he causeth them to ebb and flow, but because it was his office to corrupt them, and turn them into blood.

More probable was their opinion, who attribute the cause to certain subterranean or under-sea-fires, whose matter is of near a kin to the matter of the Moon ; and therefore, according to her motion, they continue their times of burning ; and burning, they make the sea so to boyl, as that it is a Tide, or High-Water ; but going out, the Sea sinks again.

But now, if this opinion were true, then the water in a Tide would be thinner, through the heat which causeth it to ascend, thinner then at other times: and so a ship carrying one and the same weight would sink deeper

er in a flood than in an ebbe ; which experience shews to be otherwise. Yea, were it so that there were such supposed fires in the bottom of the sea causing it to swell up like boyled water, then it would also follow that the sea water would be so hot that it might not be touched : For if the heat of the supposed fire be sufficient to make it ascend, it is sufficient also to make it hot : which would appear lesser in an ebbe then in a flood.

Wherefore, omitting these and the like opinions, the most allowable is to attribute this flux and reflux, to the effects of the divers appearances of the Moon : For we see by experience, that according to the courses of the Moon, the Tides are both ordered and altered. By which it is not improbable that the waters are drawn by the power of the Moon, following her daily motion, even as she is carried with the *Primum Mobile*. Yea, were it not so that the Sea were hindered by some accident, some have supposed that these waters would go round from East to West in 24 hours ; and so round again, even day by day. The accident hindring this circular motion, in regard that the West Ocean Sea is shut in between the firm land of *America* on the West part, and in the main land of *Africa* and *Europe* on the East part. But were it so that there were no such accidental let in the Sea, to be hindered by the land, it would orderly follow the Moon, and go daily round : And seeing also it is hindered by such an impediment, it is a probable conjecture to think, that it cannot but be forced to retire ; for the firm land beats it back again. This Mr. *William Bourn*, in the fifth Book of his treasure for Travellers, Chap. 6. determineth.

Others there be, who attributing the cause to the Moon, do demonstrate it after another manner ; namely that through her influence she causeth these alternate motions : and this influence of hers worketh according to the quadrate and opposite aspects of her position in

This is the most probable cause why the Sea ebbs and flows.

* Sir Christopher
Heydon, in his
defence of Ju-
dicial Astron.
chap. 11, pag.
412.

* Idem, pag.
413, cap. 21.

Why all seas
do not ebbe
and flow.

Why fresh wa-
ters do not
ebbe and flow.

the heavens; or according to the quadrate and opposite configurations from that place where she was at the beginning. For the seas, * saith a well learned Writer, begin to flow when the Moon by her diurn rapt motion from East to West, cometh to the nine a clock point in the morning, or is South-east: then they will continue flowing until she come to a quadrate aspect, or to 90 degrees, which will be about 3 of the clock in the afternoon, or be South-west when they cease from flowing and begin to ebbe, continuing so until she come to 180 degrees, or the opposite place, which will be somewhat after nine of the clock at night, being the opposite place to that from which she began her flowing. Then again they begin to flow, and so continue until she attain to 270 degrees from her first place, which will be after three in the morning. And then lastly they begin to ebbe, and so continue still, until the moon come to that place where she was at the beginning: for there the flood begins again. Thus it is ordinarily; yet her illumination, the sun and other stars may hasten, hinder, or something alter the moons influence, as we see in spring-tides, at the change and full; and neap-tide, at quarters and half quarters of the moon; confessed by * those who have been Masters in Astrology.

And let this also be known, that though the Moon have dominion over all moist bodies, yet not alike, because of other causes concurring; as the indisposition or unfitness of the subject, or for want of matter, and the like considerations. As for example, though it be probable that there be tides in *maris Atlantico*, yet they are not to be perceived, by reason of the vast wideness and profundity thereof: in other places also of the Sea are no tides, being hindered by the strength of some current, which prevaieth: and in fresh water there is no tide, because of the rarity, thinness, and subtilty thereof, which cannot retain the influence of the Moon.

And note also that in such havens and rivers as ebbe
and

and flow, there may be great diversity; which cometh to pass both according to the indraught, as also by reason of the crooked and narrow points and turnings of the banks, which do let and stay the tide from that which is the common and ordinary course in the main body of the sea: but afterwards, when it is in, and hath taken his sway, then it cannot so soon reverse back, but must continue until the water behind it be descended or ebbed into the sea. The River *Thames* may serve as an instance in this; for it is not a full sea in all places of it at one instant, being three parts of a flood at the lands end, before it can be any flood at *London*. But were it so that there were no creeks, islands, straits, turnings, or other accidental hinderances, then there should be no difference found in any sea, but the whole body should be swayed up and down with a constant course: whereas since it is otherwise, the times for every such place must be once found out, that thereby they may be known for ever.

Wherefore the cavils of some men are nothing worth who by bringing particular and rare (perhaps vain) examples, do think to take away this power from the Moon. For sith this lunar regiment is pertinent to most seas, and that all our ocean doth follow her; the exceptions taken from certain straights, creeks, bays, or such like places, ought to be referred to accidental hinderances; as to the unaptness of the places, rocks, qualities of the regions, differing nature of the waters, or other secret and unknown impediments; such as manifest themselves in *Cambaia*. For it is reported, that there, although the tides keep their course with the moon, yet it is contrary to the course they hold in these parts; for they are said to encrease, not with the full of the moon, but with the wane; and so the sea crabs do likewise: amongst other things the nature of the water and quality of the Region may much avail to this, if it be true. And in the island of *Socotora* (saith Mr. *Purchas*) Don

John

John of Castro observed many dayes, and found (contrary both to the *Indian* and our wont) that when the moon riseth, it is full sea, and as the Moon ascends, the Tide descends, and ebbeth, being dead low-water when the Moon is in the Meridian. These things are thus reported, and if they should be true, yet we must know that they are but in particular Seas, as I said before, where a general and universe cause may be much hindered, and in a manner seem as it were altered.

*They that descend the briny waves
Of liquid Thetis founts,
And in their Ships of brittle staves
Trade to augment their goods;
These men behold, and in the deeps they see
How great Gods wonders in the waters be.*

Psal. 107. 23.
24.
Translated by
the Author.

I conclude therefore, and cannot but say, that this is as great a secret, to be in every point discussed and unfolded, as any nature can afford: *Arcanum enim natura magnū est.* It is a great secret of nature, and gives us therefore principal occasion to magnifie the power of God, whose name onely is excellent, and whose power above Heaven and Earth.

Last of all, this is the final cause of the Seas motion: God hath ordained it for the purging and preserving of the waters. For as the air is purged by winds, and as it were renewed by moving to and fro: so this Motion keeps the waters of the Sea from putrefaction.

An Appendix to the former Section, wherein the properties and vertues of certain strange Rivers, Wells, and Fountains, are declared.

I Do not well know how to end this discourse of waters, before I have spoken something of the strange properties that are in certain rivers, wells, and fountains.

tains. Some are hot, because they are generated, and flow out of veins of brimstone, or receive heat from those places where subterranean fires are nourished. For this is a general rule, that all waters differ according to the quality of the place from whence they arise. Some again are sowre, or sharp like vinegar; and these run through veins of allome, copperas, or such minerals. Some may be bitter, that flow out of such earth as is bitter by adu- sion or otherwise. Some may be salt, whose current is through a salt vein. And some may be sweet; These are such that be well strained through good earth, or run through such minerals as be of a sweet taste.

Our Baths in the West country, and *S. Anne of Buck- stons* Well in the North part of *England*, and many other elſewhere, are hot. *Aristotle* writeth of a Well in *Sicily*, whose water the Inhabitants used for vinegar: and in divers places of *Germany* be Springs which harbour much sharpness. In *Bohemia*, near to the City called *Blen*, is a Well (saith *Dr. Fulk*) that the people use to drink of in the morning, instead of burnt Wine. And some (saith he) have the taste of Wine; as in *Paphlagonia* is a well, that maketh men drunk which drink of it: now this is, because the water receiveth the fumosity of brimstone, and other minerals, through which it runneth: and retaining their vertue, it filleth and entoxicateth the brain, as wine doth. For it is possible that fountains may draw such efficacy from the mines of brimstone, that they may fill their brains with fume that drink thereof, who also become drunk therewith. To which purpose *Ovid* speak- eth thus;

*Quam quicunque parum moderato gutturè traxit,
Haud aliter titubat, quàm si mera vina bibisset.*

Which; whoſo draws with an immoderate throat,
Trips, as his brains in mere good wine did float.

And *Du Bartas* also,
*Salonian fountain, and thou Andrian spring,
Out of what cellars do you daily bring*

Water used in
stead of vine-
gar.

Water used in
stead of burnt
wine.

Water which
makes men
drunk.

*Du Bart. y. d.
of i week.*

The

*The oyl and wine that you abound with so ?
 O hearth, dost these within thine entrails grow ?
 What ? be there vines and orchards under ground ?
 Is Bacchus trade and Pallas art there found ?*

A water which
 is deadly to
 beasts, but not
 to men.

Ortelius, in his Theatre of the world, makes mention of a fountain in *Ireland*, whose water killeth all those beasts that drink thereof, but not the people, although they use it ordinarily.

A purging kil-
 ling water.

It is also reported, that near to the Isle *Ormus*, there is a great fountain found, the water whereof is as green as the field in spring-time, and salt as the Sea. He which drinketh but a little of it, is incontinently taken with a violent scowring; and he that drinketh very much thereof, dieth without remedy.

A water which
 makes horses
 mad.

Alianus makes mention of a fountain in *Boetia* near to *Thebes*, which causeth horses to run mad, if they drink of it.

A cold burn-
 ing water.

Pliny speaketh of a water in *Sclavonia* which is extremely cold; yet if a man cast his cloth cloak upon it, it is incontinently set on fire.

A water which
 will both rost
 and bake.

Ortelius again speaketh of a boyling fountain, which will presently seethe all kind of meat put into it: it will also bake paste into bread, as in an oven well heated. This is said to be in the Isle of *Grontland*.

A river which
 breedeth flies.

The river *Hypanis* in *Scythia* every day brings forth little bladders, out of which come certain flies. They are bred in the morning, sledge at noon, and dead at night: wherein mankind is also like them. For his birth is as his morning; his strongest time, or his middle time (be his time long or short) is as his noon; and his night is that, when he takes leave of the world, and is laid in the grave to sleep with his Fathers; For this hath been the state of every one, since first the world had any one. The day breaking, the Sun ariseth; the Sun arising continues moving; the Sun moving, noontime maketh; noontime made, the Sun declines; the Sun declining threatens setting; the Sun setting, night cometh

meth; and night coming, our life is ended. Thus runs away our time. If he that made the heavens Sun, hath set our lives Sun but a small circumference, it will the sooner climbe into the noon, the sooner fall into the night. The morning, noon, and evening (as to those flies) these three conclude our living.

Clitumnus, saith *Propertius*, lib. 3. is a river or spring in *Italy* which maketh oxen that drink of it, white. *Dr. Fulk* yieldeth this reason, namely, because the quality of the water is very flegmatick, *Fulk. Met. lib. 4.*

Pliny speaketh of the river *Melas* in *Bœotia*, which maketh sheep black: But *Cephisus*, another stream, which flows out of the same lake, makes them white. See *Plin.* in the 103. chap. of his 2. book.

Pliny also, in the former book and Chapter, makes mention of the river *Xanthus*, which will make the flocks turn red. if they drink the water. *Solinus* affirmeth the like of a fountain in *Arabia* near to the Red-sea, saying, *in litore maris istius fontem esse, quem si oves biberint, mutant vellorum qualitatem, as fulvo post modo nigrescant colore.* To which purpose we may *Du Bartas* descant thus, in the third day of the first week.

* *Cerona*, *Xanth*, and *Cephisus*, do make
The thirsty flocks, that of their waterstake,
Black, red, and white: And near the crimson deep,
Th' Arabian fountain maketh crimson sheep.

Seneca speaketh of a river which maketh horses red. Now these things may be, as *Dr. Fulk* yields probable conjecture, in that the quality of the Water may alter the complexion; and the complexion being altered, the colour of their wooll and hairs may be changed. *Aristotle*, in his 3. book, chap. 12. *de histor. animal.* maketh mention of such like waters also; as there is a river in *Assyria*, called *Psychrus*, of that coldness, which causeth the sheep that drink thereof to yeare black lambes: in *Andania* there are two Rivers, the one maketh the sheep

A water which
maketh oxen
white.

Water which
maketh sheep
black or white

Water which
makes them
red.

* *Plin. lib. 31.*
cap. 2.
See also lib. 2.
cap 103.

A water like
to the former.

A water cold
in the day, and
hot in the
night.

white, the other black : the river *Scamander* doth die them yellow. *Dr. Will.* in his *Hexap.* on *Gen. ex Aristot.*

Pliny makes mention of the *Hammonian* fountain, saying, *Jovis Hammonis fons interdum frigidus, noctibus fervet*, The fountain of *Jupiter Hammon* is cold in the day time, and hot in the night. Like unto which is that which he calleth the fountain of the Sun ; excepting that the water is sweet at noon, and bitter at midnight : but for the times of cold and heat, it is like to the other fountain, *lib. 2. cap. 103.* Some seem to think that this may be the reason, namely, that the cold humidity of the night nourisheth the heat, and by an *Antiperistasis* causeth it to reinforce it self inward : but by day (the Sun-beams sucking up that heat which is in the surface, that is to say, above) the water remaineth cold. Others determine thus, saying that this may be by the same reason that well water is colder in summer than it is in winter.

A water turning
wood into
stone.

We have in *England* wells which make wood and all things else that be cast into them, stones : the cause whereof is great cold.

A river which
rests every se-
venth day.

Josephus, de bello Judaic. lib. 7. cap. 24. writeth that there was a river in *Palestine*, which passeth between two cities, called by these names, *Siz. Arcen*, and *Raphance*, which River is admirable for an extraordinary singularity : namely, that having entertained his violent and swift course for the space of six dayes, on the seventh it remaineth dry : which being past, it runneth as before ; and therefore it is called the river of the Sabbath : * *Du Bartas* calleth it the *Jews* religious river,

* In his 3 day
of the 1. week.

*Keeping his waves from parking on that day
in which God ordain'd a sacred rest for ay.*

A strange well
in *Idumea*.

In *Idumea* was a well, which one quarter of the year was troubled and muddy, the next quarter bloody, the third green, and the fourth clear. *Isidore* makes mention of this, and it is called the fountain of *Job*.

Seneca and others affirm that there be rivers whose waters

waters are poyson: now this may be, in regard that they run through poysonous minerals, and receive infection from their fume, and the like. Such is the water *Nona-crisis* in *Arcadia*: of which it is recorded, that no vessel of silver, brass, or iron, can hold it, but it breaketh in pieces; onely a Mules hoof and nothing else can contain it. * Some write that *Alexander* the great, through the treachery and plots of *Antipater*, was poysoned with this water. *Curtius* calleth it the water of *Syx*, lib. 10. *juxta finem*.

In an Isle of *Pontus*, the river *Asfacus* overfloweth the fields; in which whatsoever sheep or other milch cattel be fed, they always give black milk. This River *Pliny* forgetteth not, lib. 2. cap. 103.

It is reported that in *Polandis* a fountain so pestilent, that the very vapour thereof killeth the beasts when they approach unto it.

There be some waters which make men mad who drink of them. Which is, in a manner, by the same reason that other fountains have made men drunk.

Some again spoil the memory, and make men very forgetful: which may very well be, by procuring obstructions in the brain. *Fulk*.

Seneca speaketh of a water, that being drunk provoketh unto lust. *Pliny*, in the second chapter of his 31 Book, speaketh of certain waters in the Region of *Campania*, which will take away barrenness from women, and madness from men. And in *Sicilia* are two springs: the one maketh a woman fruitful; the other, barren.

The foresaid *Pliny*, in the same book and chapter, saith that the river *Amphrysus*, or *Aphrodisium*, causeth barrenness.

And again, in his 25 book and 3 chapter, he speaketh of a strange water in *Germany*, which being drunk causeth the teeth to fall out within two years, and the joynts of the knees to be loosed.

Lechnus, a spring of *Arcadia*, is said to be good against abortions.

Poysoning waters.

* *Plutarch*.
See also *Just.*
lib. 12. and
Curt. lib. 10.

A water which makes cattel give black milk.

Poysoning waters.

Water which makes men mad.

A water that spoils the memory.

A water which procureth lust.

A water which causeth barrenness, and another which causeth the Teeth to fall, &c.

* For this see
Pliny lib. 31.
cap. 8. where
also you may
read of ano-
ther that
sharpeneth
the senses.

Fountains of
oyl.

Waters of a
strange tem-
per.

Of the foun-
tain *Dodone*.

Waters which
work miracles.

In *Sardinia* be hot wells that heal sore eyes: and in *Italy* is a well which healeth wounds of the eyes. In the Isle of *Chios* is said to be a well which makes men abhor lust: and in the same Country, another whose property is to make men *dull-witted. Now these and the like qualities may as well be in waters which are mixed with divers minerals and kinds of earth, as in herbs, roots, fruits, and the like.

The lake *Pentastum* (as *Solinus* saith) is deadly to serpents, and wholesome to men. And in *Italy*, the lake *Cistoris* causeth those that drink of it to abhor wine. *Fulk. Met. lib. 4.*

Ortelius, in the description of *Scotland*, maketh mention of divers fountains, that yield forth oyl in great quantity: which cometh to pass by reason of the viscosity or fatness of the earth where they pass, and from whence they arise. The like may be also said concerning pitchie streams, &c.

Some waters are of that temper, that men sink not in them, although they know not how to swim. The like lake is said to be in *Syria*, in which (as *Seneca* relateth) no heavy thing will sink.

That which *Pliny* writeth of the fountain *Dodone*, *lib. 2. cap. 103.* is very strange: whereupon *Dn Barlas* makes this descant.

What should I of th' Illyrian fountain tell?

What shall I say o' th' Dodonean well?

Whereof the first sets any clothes on fire;

Th' other doth quench (who but will this admire?)

A burning torch; and when the same is quenched,

Lights it again, if it again be drenched.

There be some wells, whose waters rise and fall according to the ebbing and flowing of the sea, or of some great river unto which they are near adjoynd. The reason therefore of this is plain.

But strange is that which *Dr. Fulk* mentioneth of the river *Rhene* in *Germany*, which will drown *bastard children

children that be cast into it, but drive to land them that be lawfully begotten. Or is not this strange which he also mentioneth of a certain well in *Sicilia*, whereof if Thieves drink, they are made blind by the efficacy of the water? The like I find in other Authors concerning certain fountains in *Sardinia*: for it is said that they have this marvellous property; namely, that if there be a cause to draw any one to his oath, he that is perjured and drinketh thereof, becometh blind, and the true witness seeth more plainly than he did before. *Solinus* and *Iftodore* report it.

Solinus also and * *Aristotle* make mention of a water called the *Eleusinian* or *Halasinian* spring, which, through the noise of singing, or musick, is moved as if it danced or capered up and down: whereas at other times it is still and quiet. But I conclude, and (as that * honoured Poet) cannot but say,

*Sure in the legend of absurdest fables
I should enroll most of these admirables,
Save for the reverence of th' unstained credit
Of many a witness, where I yerst have read it;
And saving that our gain-spurr'd Pilots find,
In our dayes, waters of more wondrous kind.*

Unto which (in things that are strange, and not fabulous) let this also be added, that God Almighty hath proposed infinite secrets to men, under the key of his wisdom, that he might thereby humble them; and that, seeing what mere nothings they are, they might acknowledge that all are ignorant of more than they know: for indeed this is a rule, *Maxima pars eorum qua scimus, est minima pars eorum qua nescimus*; The greatest part of those things which we know, is the least part of those things which we know not.

* In which he was deceived: it was rather to try their strength, and make them hardy, as *Verfegan* well declareth, *Relic. cap. 2. pag. 45.*

* *De admirandis*, cap. 51 & 52.

* *Dis barb.* 1 day of 1 week.

We ought to make the best use of the strangest things.

Sect. 3.

Of the dry-land appearing after the gathering of the waters.

* Humiditas non est essentia, sed ex propria definitione, quod scilicet diffinitur alieno termino clauditur. Jam videmus aquam includi facilius certis limitibus quam aerem, ergo, &c. Quod autem aqua magis humectat, id fit propter crassorem substantiam. Cum enim humiditas aqua in densiore materia hercat, ideo est magis unita, & proinde efficacior ad humectandum. Aeris vero humiditas tam crassam substantiam, sicut aqua non habet, & propterea tantum maiorem corporibus praeberet nequit, & quod quandoque exsiccare videtur, id non est per se sed propter accidens, puta per exhalationes, &c.

THE waters were no sooner gathered, but the dry-land then appeared: and this may be called the second part of the third dayes vwork. For the end of the gathering of the vvaters was, that the earth might shew it self; and not onely so, but that also it might appear solid and dry.

Two things therefore (saith *Pareus*) did the earth in this act principally receive: one was that it might be conspicuous: the other, that it might be solid and dry: and both depended upon the law of great necessity.

For first, had it been continually covered with waters, how could it have been a place for habitation? either man must have been otherwise than he is, or else the earth must, as it vv as, be uncovered.

Secondly, vv ere it uncovered, and not also dry and solid, it could not conveniently have bore up those living creatures, vv eights, and other things, vv hich tread and press upon it. Whereupon Expositors vv ell vv itness, that earth is so named from the Hebrevv *Erets*: vv hich (say they) implieth a thing trod and run upon by the creatures on it, and heavenly orbs about it. The same vv ord spoken of particular places, is Englished *land*; as the land or earth of *Canaan*, and the like.

Here then it appeareth, that this vv as that time vv hen the earth received her proper elementary quality: vv hich it had ~~been~~ potentially before, but not actually till novv. Novv therefore, if being not onely uncovered, but also made dry, it might easily be distinguished from the other three elements of fire, air, and vv ater. For the proper quality of the fire is heat; of the air, is *moisture; of the vv ater, is coldness; and of the earth, is driness.

These

These qualities, I say, are most proper and peculiar to them: yet so, as the air is not onely moist, but of a moderate heat, as being nearest to the Element of Fire; the water not onely cold, but also moist, as coming nearest to the nature of air; and the Earth, not onely dry, but something cold, as being host or landlord to the water: and upon these terms the Elements are combined together; there being in all an harmonious order; pointing to him, who in number, weight, and measure, hath constituted all things.

I will not go about to prove that the Earth is the centre of the world, for fear I should be like to him, who disputed whether snow were white: onely I will add, that even as an infant is potentially rational by nature, but is made rational in act, by youth or years; so it was with the earth, both before and after the drying of it. Unto which let this also be joyned, that the earth is not so arid or dry that it is void of all moisture: for then it would be dissolved and fall into dust. But it is arid and dry, that it might be solid and firm; retaining in the mean time, even in the solid parts of it, such a conveniency of humour, that all parts may both be glewed together, and also have sufficient nutriment for the things, which, like to a teeming Mother, she either bringeth forth, or nourisheth in her Womb.

Thus was the Earth prepared; and thus was it made a fit Habitation for man to dwell on. But, as if man were not alwayes worthy to tread upon such a solid foundation, we see it often shakes, and quakes, and rocks, and rends it self; as if it shewed that he which made it, threatned, by this trembling, the impiety of the World, and ruins of those vvhich dwell upon the Earth. For, though the * efficient, * material, and * formal causes of an Earthquake be natural; yet the final is the signification of an angry God, moved by the execrable crimes of a vvicked people; according to that of David in the 18. Psalm, at the 7. verse, *The Earth trembled and quaked,*

* Efficiens est calor solis & simul ignis subterraneus, quibus suppeditantur res superiores planetae.

* Causa materialis est spiritus seu vapor, in terrae visceribus conclusus, exire contendens.

* Forma est ipsa concussio terrae & agitatio exhalationum terrae inclusarum.

the very foundations of the hills also, shook, and were removed, because he was wroth.

*Fear chills our hearts. n hat heart can fear dissemble
n hen Steeples stagger, and huge mountains tremble ?*

The Romans, in times past, commanded by publick edict, that prayers and supplications should be made in time of an earthquake : but they must call upon no god by name, as on their other holy dayes, for fear they mistook that god unto whom it belonged.

And the most ancient of the *Grecians* called *Neptune* the shaker and mover of the earth ; because they supposed that the cause proceeded from the fluctuations and flowings of waters up and down in the hollow places under ground.

Others thought that the shaking proceeded from the downfalls of subterranean dens or caves ; and that sometimes whole mountains sunk in, and they caused the trembling.

The cause of
Earthquakes.

But by that which I said before in the generation of winds, it appeareth, that what it is, which is the cause of winds above the earth, is also the cause of trembling and shaking in the earth. For when it happeneth that air and windy spirits or exhalations be shut up within the caverns of the earth, or have such passage as is too narrow for them, they then striving to break their prisons, shake the earth, and make it tremble. Now this imprisonment is said to be caused thus ; namely, when the earth, which is dry by nature, happeneth to be watered by continual rains ; then, not onely the pores and caverns thereof are stopped and closed up, but even the air and exhalations within the earth are increased. To which purpose, Dr. *Fulk* in the third book of his *Meteors*, writeth, saying, *The great caves and dens of the earth must needs be full of air continually, (for there is no vacuum in nature :) but when by the heat of the Sun, the moisture of the earth is resolved, many Exhalations are generated, as well within the earth, as without ; and whereas*

whereas the places were full before, so that they could hold or receive no more except part of that which is in them be let out, it must needs follow that in such Countreys where the Earth hath few pores, or else where they be stopped with moisture, that there, I say, these Exhalations striving to get out, do either rend the Earth, or lift it up; that thereby either a free passage may be had, or else room enough to abide within. I am perswaded, that as in other Winds, there be also in this, subterranean fires, vvhich help to move and stir the Vapours and Exhalations. Neither do I think that the Sun is the onely cause of shutting the pores of the ground; for then Earthquakes vould in a manner be as frequent and common, as dryings after a Rain: Some of the other Planets, therefore have their operation in this effect. Which (as Astrologers witness) is *Saturn*, being of an astringent nature, and chiefly in earthy signs must this be produced. For (say they) * if *Saturn* have the sole Dominion either in the revolution of the World, or in any great conjunction, or in the ecliptick place, and be strong in earthy signs (such as be *Taurus*, *Virgo*, and *Capricorn*) and shall behold the Moon, vvhhen she is impedit, vvith a quadrate or opposite aspect, then he fore-sheweth that there will be an Earthquake. And questionless this is not altogether idle; For the influence of the Planets is divers, and may as well (according to their places and positions) vvork these effects, as have any power at all in the changes and alterations of the Air, in the producing of Meteors, cherishing of plants, and the like. And happily it is not *Saturn* onely, nor the bright beams of the Sun, but other of the Planets also being conveniently placed and disposed, which helpeth forward this sad effect.

Authors vary about the kinds of Earthquakes; some making more, some fewer kinds.

Aristotle, *De Meteoris lib. 2, cap. 8.* maketh only two Tremor, and Pulsus; a Trembling, and a Beating.

C c

some

* *Origanus de effect. c. 9. ex Haly &c.*

The kinds of Earthquakes

Some add a third, which they call *Hiatu*. Others make seven. And some add onely four; to which may be joynted a fifth.

The first is, when the whole force of the wind driveth to one place, there being no contrary motion to let or hinder it. Many hills and buildings have been rushed down by this kind of earthquake, especially when the wind causing it, was strong: For if it be a feeble wind, it onely looseth or unfalteth foundations; if less feeble, then without further harm, the earth onely shakes, like one sick of an ague. This is called a lateral, or side-long shaking.

The second is not so much lateral as perpendicular, or upright; Which is when the earth with great violence is so lifted up, that the buildings are like to fall, and by and by sinketh down again: For after the wind, that causes the Earth to swell, is broke out of prison, the Earth returneth to his old place, even as it was before.

The third kind is *Hiatu*, a gaping, rending or cleaving of the Earth, one part being driven so far from another, that whole Towns, Cities, Hills, Rocks, Rivers, Seas, and the like, are swallowed up, and never seen again.

The fourth is a shaking that causeth sinking; and is far differing from the former: For now the earth split-teth not, but sinketh; this being in such places, where, though the surface of the ground be solid, yet it hath but a salt foundation; which being moistned with water, driven through it by the force of the shaking Exhalation, is turned into water also. Thus was the Atlantick Ocean caused to be a sea, whereas before it was an Island; according to the * testimony of famous *Plato*, who lived in his flourishing fame about 366 years before Christ was born; and before his time it was that this Island sunk.

Where, by the way, in a word or two may be discoursed, not so much how the late discovered parts of the world

* *Plat. in Timæo.*

world came to be peopled, as how at the first to be unknown.

Concerning which, this I think may be supposed, that *America* was sometimes part of that great land, which *Plato* calleth the *Atlantick* Island, and that the Kings of that Island had some intercourse between the people of *Europe* and *Africa*. Some have related that they were the sons of *Neptune*, and did govern part of *Europe* and *Africa*, as well as of the said Island: in which regard there was knowledge of the late known parts long ago. But when it happened that this Island became a Sea, time wore out the remembrance of remote Countries: and that upon this occasion, namely by reason of the mud and dirt, and other rubbish of the Island. For when it sunk, it became a sea, which at the first was full of mud; and thereupon could not be sailed, until a long time after: yet so long, that such as were the Sea-men in those dayes, were either dead before the Sea came to be clear again, or else sunk with the Island; the residue, being little expert in the art of *Navigation*, might, as necessity taught them, sail in some certain boats from Island to Island; but not venturing further, their memory perished. And not only so, but also thus: this Island sinking might so damp up the sea, that neither those that were in these parts did ever attempt to seek any land that ways to the Westwards; nor yet those who were remaining upon that part of the Island that did not sink, would ever attempt to seek any land unto the Eastwards; and so the one forgot the other.

More I might say touching this thing; but this (perhaps) is more than enough. Yet that such an Island was, and swallowed by an Earthquake, I am verily perswaded; and if *America* joyned not to the West part of it, yet surely it could not be far distant, because *Plato* describes it as a great Island; neither do I think that there was much sea between *Africa* and the said Island. But I leave this digression and proceed.

A digression touching the new found world.

The fifth kind of earthquake is contrary to the former: for as before the ground sinks down, so now it is cast up, like as in the second kind already mentioned: only this is the difference. that now it returneth not to its place again, but remaineth a great mountain; an embleme whereof may be seen in the busie Mole casting up hills in a plain ground. And note that if such a rising be in the Sea, it not only causeth overflowings, but produceth likewise many Islands, such as were never seen before. And thus there may be five severall kinds of earthquakes.

The attendants
of an Earth-
quake.

Know also that an earthquake hath both his *Antecedentia*, and *Subsequentia*.

The *Antecedentia* are the signs which go before it, and shew that it will be.

The *Consequentia*, or *Subsequentia*, are the effects, which follow after it, and shew that it hath been.

Signs of an
Earthquake.

As for the *Antecedentia*, or signes, they be of these sorts chiefly.

First, a great tranquillity or calmness of the air, mixed with some cold, the reason of which is, because the exhalation which should be blowing abroad, is within the earth.

Secondly, the Sun is observed to look very dimme certain dayes before, although there be no clouds: the reason of which is, because the wind, which should have purged and dissolved the gross air, is taken prisoner and enclosed within the bowels of the earth.

Thirdly, the birds fly not, but sit still beyond their ordinary wont, and seem as if they were not fearful to let any one come near them; the reason of which is, because either the pent exhalation sendeth some strange alteration into the air, which slenderly breatheth out of some insensible pores of the Earth; which it may do though the exhalation comes not out; or else it is that they are scarce able to flie for want of some gentle gales for their wings to strike upon; it being a thing well known

known that birds flie more willingly, and cheerfully, when the air is of such a temper.

Fourthly, the weather is calm, and yet the water of the Sea is troubled and rageth mightily; the reason of which is; because the great plenty of spirits or wind in the bottom of the sea beginneth to labour for passage that way, and finding none, is sent back again; whereupon soon after it shaketh the land. This is evermore a certain sign.

Fifthly, the water in the bottom of pits and deep wells is troubled, ascending and moving as if it boyled, stinking and is infected: the reason of which is, because the exhalation being pent, and striving to get forth, moveth some stinking minerals, and other poisonous stuff to the springs of those waters, and they, with the struggling exhalation, stir and attaint them.

Sixthly, there is a long thin cloud seen in a clear skie, either a little before sun-setting, or soon after: now this is caused by reason of the calmness of the air; even as *Aristotle* observeth, that in a quiet sea, the waves float to the shore, long and straight. I do not think that this alone can be any more than a very remote sign, unless it be joyned vvith some of the other signs already mentioned; for although such a cloud may be seen, yet every calm brings not an earthquake, neither are all places alike subject to them.

The last signe, and that vvich cannot but be infallible, is the great noise and sound vvich is heard under the earth, like to a groaning, or very thundering. And yet some say, that this is not alwayes attended vvith an earthquake: for if the wind find any vvay large enough to get out, it shaketh not the earth. Now this noise is made by the struggling of the vvind under the earth.

Next after the *Antecedentia*, the *Consequentia* of earthquakes vvould be considered; and these (as I said)

be their effects; vvich indeed be not so much the effects

Effects of
Earthquakes.

of

of the earthquake, as of the exhalation causing the earthquake.

The first whereof may be the ruine of buildings, and such like things, together with the death of many people. About the 29 year before the birth of Christ, was an * earthquake in *Jurie*, whereby thirty thousand people perished. In the fifth year of *Tiberius* Emperor of *Rome*, * thirteen Cities of *Asia* were destroyed in one night by an earthquake. Some say but twelve. *Lang. chron.* In the 66 year of Christ, * three Cities of *Asia* were also, by the like accident, overthrown; namely, *Laodicea*, *Hieropolis*, and *Colosus*. Again, in the year of Christ 79, three * Cities of *Cyprus* came to the like ruine; and in the year following was a great death of people at *Rome*. And in the year 114, * *Antioch* was much hurt by an earthquake; at which time, the Emperor *Trajan* being in those parts, escaped the danger very difficultly. *Eusebius* placeth it in the second year of the 213 Olympiad; and *Bucholcerns* setteth it in the year of Christ one hundred and eleven. *Eusebius* makes mention of another before this, in the 7 year of *Trajan*; and this was that, which in *Asia*, *Greece*, and *Calabria*, overthrew nine several Cities. About the year of Christ * 180, or 182, the City *Smyrna* came to the like ruine; for the restauration whereof, the Emperor remitted ten years tribute. About the year of Christ 369, *Eusebius* again telleth of an earthquake, which was in a manner all over the world, to the great damage of many Towns and People. The like was in the year 551; at which time, a quave of the earth swallowed a middle part of the City *Misia*, with many of the inhabitants, where the voice of them that were swallowed, was heard crying for help and succour. He also, in the year 561, mentions another, wherewith the City *Berintho* was overthrown; and the Isles, called *Coy*, grievously shaken. Again, he writeth of a great tempest and earthquake in the year 1456, wherein, (as he hath it out of

Chronica

* *Langues* in
his Chron.
* *Tacit.* lib. 3.
annal. *Euseb.*
chron.
* *Euseb.* 164.

* *Idem.*

* *Langues* in
his Chron.

* *Euseb.*

Chronica chronicorum) there perished about *Fuel* and *Naples*, forty thousand people. Also, * in the year 1509, the City of *Constantinople* was sorely shaken, innumerable houses and towers were cast to the ground, and chiefly the Palace of the great *Turk*; in so much that he was forced to fly to another place. Thirteen thousand perished in this calamity. Again, in * the year 1531, in the City *Lisbon*, a thousand four hundred houses were overthrown (or, as some say, one thousand five hundred) and above six hundred so shaken, that they were ready to fall, and their Churches cast unto the ground, lying like heaps of stones. This earthquake was attended with a terrible plague and pestilence. And thus do these examples confirm the first effect.

* Fromund.
Met. lib. 4.
but *Langues*
nameith the
year. 1508.

* *Idem*.

A second is the turning of plain ground into mountains, and raising up of Islands in the sea, as *This* in the time of *Pliny*; and *Tberasia*, which (as *Seneca* witnesseth) was made an Island even in the sight of the Mariners, or whilst they were looking on. Thus also *Delos*, *Rhodos*, and sundry others, came to be Islands.

A third effect is the throwing down of mountains, and sinking of Islands, and such like. Thus perished the *Atlantick* Island, as I shewed before: yea, thus also perished by the breach of the earth, those famous Cities of *Achaia*, viz. *Helice* and *Burin*; of which *Ovid* writeth thus,

*Ss quaras Helicen & Burin, Achaidas urbes,
Invenies sub aquis: Et adhuc offendere nauta
Inclinata solent cum mœnibus oppida mersis.*

If thou would'st *Helice* and with'd *Burin* find,
Th' *Achaean* Cities, (never lost in mind)

The water hides them; and the ship-men shew

Those ruin'd towns, and drown'd walls as they row.

A fourth effect is the cutting the neck of some *Isthmus* from the continent: and thus *Britain* was * severed from *France*; *Africa* from *Spain*; and *Sicily* from *Italy*, with the like.

Verslegan in
his rellituti-
on, cap. 4.

A fifth is the translation of Mountains, Buildings, Trees, &c. unto some other places of which we may find testimony in good Authors of credit. *Albertus* calls this motion; a vection or a carrying.

A sixth is the breaking out of Rivers and Fountains in some new places; which happeneth by the breaches made in the Earth amongst water-springs, through the violence of the Exhalation.

A seventh is Plague and Pestilence, caused by the poysonous fume of the Exhalation; such as was in the year 1531, before mentioned, when *Lisbon* was so strangely shaken; For putred Exhalations infect the Air; and the Air, us.

An eighth effect is famine which may be by reason of the shocks and shakings of the Earth, making it thereby become as it were sick and steril. Or else it may be by reason that the long pent vapour carries with it a blasting hurtful fume.

A ninth is sometimes the discovering of new burning hills; which may happen when the abundance of Brimstone and Sulphurous matter that is under ground, is set on fire through the violent motion of the Exhalation; and so it breaketh forth.

A tenth is (or else should be) the fear of a Deity. For if it be the Lords will by this work of his, in his hand-maid nature, to shake it, no land can be sure, no place so strong that can defend us. Nay, the more strong, the more dangerous: For the higher, the greater fall. With the wise men therefore I will say, *I know that whatsoever God doth, it shall be for ever: nothing can be put to it, nor any thing taken from it. And God doth it, as that Men should fear before him.* Ecclesiastes 3. 14.

Last of all, this I will add, and it is a saying of one, well worthy to be remembred. *The whole Earth* (saith he) *is nothing but the centre or point of the world. This is all the matter of our glory; this our seat. Here we bear honours; here we exercise rule; here we desire Riches; and here*

here mankind troubleth and turmoileth himself: here we wage war, yea civil war; and make the very earth become soft and fat with the crimson blood of our mutual slaughterers. This is that place where we drive away from us our near neighbours, ditch in his grounds to ours, and so measure our demerits by driving others from our coasts, that thereby we may be like to him who can freely triumph in any part of the earth. But what of all this? when time, by ending us, hath put a measure to our covetousness; then, after all, what a small portion shall he obtain, who is dead and gone from all? O amatores mundi, cujus rei gratia militatis? Oh ye lovers of the World, for the sake of what thing is it that you strive?

Let any judge, whether this lower Ball
(Whose endless greatness we admire so all)
Seems not a point, compar'd with th' upper Sphere,
Whose turning turns the rest in their career.
Lo then the guerdon of your pinching pain:
A needles point, a mote, a mite you gain.
A nit, a nothing (did you all possess)
Or, if than nothing any thing be less.
"Why then should man this nothing thus respect,
"As he, for it, Heaven's Kingdom should neglect?
If thou feed'st well, if feet and back be clad,
What more to thee can Kingly riches adde?
Not house, not land, not heaps of gold and treasure
(When sickness of thy body hath took seisure)
Can thence remove it, neither canst thou find
A force in them to cure a troubled mind.

Which if man could well remember, he would cease to spend himself for nothing; and willingly subscribe to the lamentation made by the * Poet, under the person of *Hecuba*, upon the ruine of Troy; saying,

*Quicunq; regno fudit, & magna potens dominatur
anla,*

Animumq; rebus credulum latis dedit,

Me videat, & te, Troja: non unquam tulit

D d

Documenta

The folly of
them whose
hearts are set
upon the
World.

* Seneca trag.

* Barkley in his
Suum bonum,
 edit. a. 156. a.

*Documenta fors majora, quam fragili loco
 Starent superbi —*

Which is (as * one translates it) thus,

He that his confidence puts in a Crown,
 Or in his Palace potently doth frown,
 And takes, with prosp'rous fortunes, all his joy;
 Let him but look on me, and thee, O *Troy*.
 Chance, by no greater influence, could declare
 In what a fickle state all proud things are.

To this purpose also serveth that Epigram of *Ansonius*, wherein he feigneth *Diogenes* to see the rich King *Cresus* among the dead: and there *Diogenes* himself hath as good an estate as he.

*Effigiem Rex Craso tuam, ditissime Regum,
 Idit apud manes Diogenes cynicus.
 Constituist; nique procul solito majore cachinno
 Concussus, duxist, Quid tibi divitia
 Nunc prosunt, Regum Rex O ditissime, cum sis
 Sicut ego solus, me quoque pauperior?
 Nam quacunq; habui, mecum fero: cum nihil ipse
 Ex tantis tecum, crase, feras opibus.
 Amongst the ghosts *Diogenes* beheld
 Thee *Cresus*, of all Kings, with most wealth swell'd.
 This 'twas he did conclude; and as one mov'd
 With greater laughing than his wont behov'd,
 He far off said, Thou richest once of Kings,
 Speak; (to this place below) what profit brings
 All thy late pomp? for ought that I now spy,
 We are alike; nay, thou more poor than I.
 For nought was what I had, I brought that store:
 Thou hast much wealth, yet now than I no more.*

Like unto which, is that example of him, who lying at length upon the ground, and rising, by chance espied the print that his body at the full length made: he breaks out into this, or the like speech, saying, Lo here, what a small piece of ground will serve us when we die! and yet living, we seek to conquer Kingdoms. To which

we

We may joyne that worthy command of famous *saladine*, who being ready to depart this life, called for his standard-bearer, giving him in charge that he should go and take his winding-sheet, and hanging it on his pike, he should go out with it and tell to his Camp, that of all his Triumphs, of all his Conquests, and of all his Victories, he had nothing left unto him now but onely that to wrap up his body for his burial. But —

Are all men mortal? are all born to die?

(Can none on earth possess eternity?)

Sure, he that looks upon the worlds frail stage,

And views the actions of this present age,

He cannot but with eyes indiffernt see

That mortals here would faine immortal be.

For by the symptomes is the sickness found;

And by the thoughts that equalize the ground,

Transcending rarely from that pitch, on high

Up to the court above the azure skie,

No hard thing 'tis, a judgement true to give

That such descendents here would ever live.

But souls, inspired with the gales of grace,

Esteem the witching world no resting place;

A place of travel, not a place of stay;

Such well-devoted pilgrims count this way:

For sure the world is but a gaudy ball,

whose quill is vanity, no joy at all.

Rouse then thy mind (wicht mortal) from the ground,

Think of that place where true joyes may be found:

(boak not thy soul with earth: for thou dost win,

Nought for thy care, but punishment of sin:

Rouse then (I say) thy thoughts; think what it is

To be partaker of eternal bliss.

For when the dry-land God did make appear,

'Twas not that man should think his Heaven's here.

The Authors
Verses.

Sect. 4.

Concerning the sprouting, springing, and fructification of the earth.

I Am now come to that which I called the third and last part of this dayes work: and it is the budding, and fructification of the earth. For after God had discovered it, and made it dry, he commands it to bring forth every green thing; as grass, herbs, trees, &c. by which he caused it to change a mourning, black, and sad-russet weed, into a green, gallant, rich, enamelled robe; and, lady-like, to paint it self in bravery; having green grassie locks, whose hair doth not more adorn than profit; whose rose cheeks are not more admired, than for their virtues, with: whose frank, free, fragrant, fruitful breasts do so nourish her own children, sprung from her never resting womb, that they again add nourishment to other things; both man and beast gaining by her never ending labours. For God, by saying, *Let it bring forth*, did not onely give an ability or power of bringing forth, but brought that power also into act; causing this act to be so begun, that it might be continued from thence to the very end of time. And to this purpose we see it is, that the herb must bring forth seed, and the tree bear fruit. For God would not that either the herb should be sterill, or the tree barren; but with their seeds and fruits according to their kinds: by which it was, and is, that their kinds both were, and are preserved. For first we see the buds spring up; these at the first are tender, but afterwards, growing a little older, we call them herbs: the herbs, being of convenient growth, bring forth flowers: under the flowers grow and wax ripe the seeds: the seeds being ripe and cast into the ground, do again bring forth the tender buds; and they herbs in their several kinds; and so on, as before: by which you may see, how

how God hath constituted a never-ending course in nature; being the same in the trees also, as well as in the herbs. For their tender branches do not grow to be woody, but by little and little; then they aspire to the height and name of trees; and being trees, they blossom; from their blossoms arise fruits; and within their fruits be seeds; and in those seeds resteth the power of other sprouts, or tender shoots.

Now some would observe from hence, that here is mention made of three kind of plants and fruits that the earth bringeth forth, *viz.* the bud, the herb, and the tree: which by others are distinguished into herbs, shrubs, and trees. But I rather think the bud is to be exempted, and not taken as one peculiar thing proper to a kind of its own. For (as I have already shewed) that which is the bud, may be taken, either for the tender shoot of any herb or grass, or else for the tender and unwoody branches of shrubs and trees: for that which they be in their sprouting, they are not in their perfection: neither are they in their perfection what they be in sprouting.

And it is not an endless wonder to see the variety, growth, power and vertue of these, the earths rich liveries? some great, some less; some little, some low; some large, some long; some, whose virtue excels in this, some, whose power appears in that: some hot and moist, some cold and dry: some hot and dry, some cold and moist. Of all which I purpose to give my reader a taste, that thereby he may be driven to admire the rest.

The variety
and vertue of
herbs and
trees.

Herbs hot and moist.

ANd first of all I begin with *Basil*: in Greek, it is *βασιλ*, or *βασιλικόν*, in Latine, *Ocimum*, *Basilicum*, or *Regium*. This is an herb hot in the second degree, and somewhat moist. * *Galen* would not that this herb should be taken inwardly, because it hath a kind of superfluous moisture joyned to it; but being applied outwardly, it is

Basil.

* *Galen* in his
Herb. out of
Galen. *Simp.*
lib. 8.

good

A scorpion
bred in the
brain by the
smell of *Basil*.

A medicine
for warts.

Mallows.

How to keep
Bees from
stinging.

Borage.

Bugloss.

good to digest, distribute, or concoct. We in *England* seldom or never eat it: yet we greatly esteem it, because it smelleth sweet, and (as some think) comforteth the brain. But know that weak brains are rather hurt than holpen by it: for the savour is strong: and therefore much smelled unto, it procureth the head-ach; and (as the Author of the haven of health affirmeth out of *Hollerins*) *Basil* hath a strong property beyond all these. For (saith he) a certain *Italian*, by often smelling to *Basil*, had a scorpion bred in his brain, and after vehement and long pain he died thereof. Moreover, that we shun the eating of it, is also necessary; because if it be chewed, and laid afterwards into the sun, it engendreth worms. Mr. *Thomas Hill*, in his art of gardening, testifieth that the seeds of *Basil*, put up into the nose, procureth sneezing; and being mixed with shoe-makers black, do take away warts, killing them to the very roots.

The wild *Mallow* is called in *Greek* *μαλβα*, signifying a mitigator of pain: and in *Latine*, it is *Malva sylvestris*. It hath a certain moderate and middle heat in it, together with some moisture. The leaves stamped with a little honey, and one anointed with them shall not be stung by Bees, Wasps, or the like. Inwardly taken they resist poyson, provoke to stool; Outwardly they assuage hard swelling of the Privities, or other places; In Glysters they help roughness and fretting of the Guts, Bladder, and Fundament; and so they do being boyled in water, and the decoction drunk, as hath been proved.

Borage is a common herb, and yet some account a fourfold difference in it; as thus, *Garden Borage*, *white-flowered Borage*, *never-dying Borage*) so called, because fair blew flowers, ripe seeds, and buds for new flowers, may be seen all at once on it) and also another kind of *borage*, which is little differing from the former, excepting that the flowers look fair and red. This herb is hot and moist in the first degree.

Unto this may be joyned *Bugloss*, which, according

to *Dioscorides* (as Mr. *Gerrard* writeth) is the true *borago*: whereupon, *saith he, many are of an opinion that the one is but a degenerate kind from the other. In the Greek it is called *βυλαγορι*; and in the Latine, *Lingua bubula*. *Pliny* giveth a reason of his name; which is, because it is like an Oxetongue. Moreover, he likewise, calleth it *Euphrosynum*, from the effect; namely, because it maketh a man merry and joyful: For *ισφροσυν* is *laetitia*; and *ισφροσυν* signifieth some such thing as doth *laetitia* ferre, or bring mirth: which he witnesseth of this herb to be true, saying, that being put into wine it increaseth the delights of the mind. *Plin. lib. 25. cap. 8.*

* *Herb. pag. 634.*

Good to make one merry.

The like is also said of *Borage*; *Ego Borago gaudia semper ago*. In which regard the distilled water of *Borage*, or *Bugloss*, with the leaves and flowers, being drunk with wine, cannot but be good, comfortable, and pleasant for the brain and heart: it increaseth wit and memory, engendreth good blood, and putteth away melancholly and madness, as the Author of the haven of health affirmeth. Moreover it is good against a Consumption, and doth greatly hinder swooning and heart-quahms.

An excellent water made of *Borage*, &c. being good against melancholy and sadness.

The herbs following are hot and dry.

NEXT unto *Bugloss*, I mention *Balm* or *Baum*, because the water of it also being drunk in wine, is good to comfort the heart, to drive away all melancholy and sadness: in which regard it is not amiss to have them all distilled together. Moreover I find it recorded that the hives of Bees being rubbed with the leaves of this herb, causeth the Bees to keep well together, and allureth others to come unto them: For, saith **Pliny*, they delight in no herb or flower more, and therefore they flie not away from such hives as are either rubbed with the leaves, or anointed with the juice of this herb: and hereupon it cometh to be called *Apisastrum*; which is as much

Balm:

Bees take great delight in *Balm*.

* *Lib. 21. cap. 20.*

much as to say, *The Bees Star*, or *guide*. For when they are strayed far from home, by the help of this herb they find their way again. But the common *Latine* name is *Melissa*, or *Citrago*. It is also called in some Authors, *Melissophyllum*, and *Meliphyllon*.

A Medicine
for the Mo-
ther.

Balm is good
to close up
wounds.

This is an herb which is hot and dry in the second degree; and good to be either eaten, or distilled unto by them who are subject to the Mother. *Gerard*.

Pliny writeth a strange secret in a kind of *Balm*, which he calleth *Iron wort*; viz. that the leaves close up wounds without any peril of inflammation: and also that it is of so great virtue (which you may believe as you list) that though it be but tied to his sword which gave the wound, it stancheth the blood.

Sage.

Sage, called in *Greek* *ῥαβδόπαν*, is *Salvia* in the *Latine*: and amongst the many kinds which some observe, there are principally two: the greater and the lesser. Some say it is hot and dry in the third degree: some name not the third so much, as the end of the second: others determine that it is hot in the first degree, and dry in the second.

This is an herb which hath many and singular properties; in so much, that the *Salern* school makes this demand.

Cur moriatur homo cui Salvia crescit in horto?

As if it should be said, such is the virtue of *Sage*, that if it were possible it would cause *Clotho* evermore to hold the distaffe, and *Lachesis* to spin perpetually: yea, *Atropos* must forbear to cut in two the thread of life: such a desire hath *Sage* to make a man immortal.

The *Latine* and *English* names speak greatly for the commendation of it. For *Salvia* takes the name of safety; and *Sage* is a name of wisdom.

*Sith then the name betokens wife and saving,
We count it natures friend, and worth the having.*

Sage is good
for child-bear-
ing women.

Beside these names, some call it the *Holy Herb*, because women with child, if they be like to come before their time,

time, and are troubled with abortments, do eat thereof to their great good: for it maketh them fruitful, retaineth the birth, and giveth life unto it. *Ger.* in his *Herball*. This property of fertility caused, that in times past the people of *Egypt*, after a great mortality and pestilence, constrained their women to drink the juyce thereof, to cause them the sooner to conceive, and to bring forth store of Children.

Moreover, *Sage* is singular good for the brain and head, quickeneth the memory and senses, strengtheneth the sinews, is good against the pallsie, and stayeth a shaking in any part of the body. The most of which properties are expressed in these two verses following,

*Salvia confortat nervos, manuumque tremorem
Tollit, & ejus ope febris acuta fugit.*

Sage makes the sinews strong, the pallsie cures;
And by its help no ague long endures.

Also, the juice of this herb drunk with honey, is good for those that spit and vomit blood: for it stoppeth the flux thereof incontinently.

And last of all, although I omit many vertues in this herb, yet one thing must not be forgotten. The leaves of the red *Sage* put into a wooden dish, wherein are put very quick coals with some ashes in the bottom of the dish to keep the same from burning, and a little vinegar sprinkled upon the leaves lying upon the coals, and so wrapped in a linnen cloath, and holden very hot unto the side of those that are troubled with a grievous stich, they take away the pain presently, and also greatly help the extremity of a pluresie. *Cer.*

Rue, or *Herb grace*, in Latine is called *Ruta*, in Greek *ῥίγανος*; which is, quod caliditate sua *ῥίγανος* τὸ κρυεῖν, sicut quasi congelat. If it be wild *Rue*, and not such as groweth in gardens, then it is hot and dry in the fourth degree: but garden *Rue* is a degree cooler and moister. * *liny* writeth that there is such friendship between it and the fig-tree, that it prospereth no where so well as under

Good for the
brain.
Good against
the pallsie.

Good against
spitting of
blood.

Good against
a stich in the
side.

Rue.

* *Lib 19. c. 8.*

An antipathy
between the
Toad and Rue

Good against
poyson.

* Good in
times of infe-
ction, let it be
taken any way.

Good for the
sight.
Rue makes
men chaste,
but not wo-
men.

A precious
water for the
eyes.

that tree; delighting also (as he affirmeth) to grow in sunny places. It is an enemy to the Toad, as being a great enemy to poyson: And excellent is that medicine approved by *Mithridates*, King of *Pontus* in *Asia*, who lived in the dayes of *Pompey*, viz. that if any do eat fasting, two dry Wall-nuts, as many Figs, and twenty leaves of *Rue*, with one grain of salt, nothing which is venemous may that day hurt him; it being also an excellent preservative against the * Pestilence. Which also the *Salern* School teacheth in these words.

Allia, Ruta, Pyra, & Raphanus, cum Theriaca, Nux,
Præstant antidotum contra lethale venenum.

Garlick, Rue, Pears, and Radishes will make,
With Treacle and Nut,
An Antidote, which will sell poyson stake,
And door of danger shut.

Moreover, *Schola Salerni* setteth down some other properties of it, thus:

Ruta comesta recens, oculos caligine purgat;
Ruta viris coitum minuit, mulieribus auge.

Upon which occasion one once gave it this commendation.

Rue is a noble herb, to give it right:
For, chew it fasting, it will purge the sight.
One quality thereof yet blame I must,
It makes men chaste, and women fills with lust.

Which last property is caused, in regard that the nature of women is waterish and cold: now *Rue* (we know) heateth and drieth; whereupon it stirreth them the more to carnal lust: but it diminisheth the nature of men, which is of temperature like to the air, viz. hot and moist: working thereupon a contrary effect from that which it doth in women.

Also, for those who are feeble in their sight, let them distil Rue and white Roses together, and putting the water thereof into their eyes, it will open their windows
and

and let in more light. To which joyn also this other experiment, taken out of *Schola Salerni*:

*Feniculus, Verbena, Rosa & Chelidonia, Ruta,
Ex istis fit aqua qualumina reddat acuta.*

Fennel, Vervine, Rose, Celandine and Rue,

Do water make which will the sight renew.

What other properties are pertinent to it, may be seen at large in *Pliny*, lib. 19. cap. 8. & lib. 20. cap. 13. As also in *Gerrard*, and such others as have set forth Herballs.

I will adde therefore but one thing more; namely, that the weeding of this herb with bare hands whilest the dew hangeth on the leaves, doth cause dangerous blisters and sores, which may again be helped with sallet oyl, or the juice of Hemlock, as Mr. *Thomas Hill* in his art of gardening hath declared.

Dill is called in *Greek* *άνηθον*, in *Latine* *Anethum*, and *Anethum*; and in *English* sometimes *Aner* as well as *Dill*. It bringeth forth flowers and seeds in *August*: and, as some write, it is hot and dry in the second degree: but *Gerrard* out of *Galen* affirmeth, that it is hot in the end of the second degree, and dry in the beginning of the same, or in the end of the first degree. The decoction of the tops of this herb dried, together with the seed being drunk, provoketh urine, allayeth gripings, hickets, vomiting and windiness, asswageth swellings, engendreth milk in Nurser breasts, with suchlike other secrets. And of the green herb it is said, that it procureth sleep, sound and secure; according to which we have an old saying, that

Who so ever weareth Vervin or Dill,

May be bold to sleep on every hill.

And from hence haply it was, that garlands made of this herb were used to be worn at riotous feasts, that thereby they might not onely sleep, but sleep without danger.

Rosemary, which some call the Garland Rose, or in *Latine* *Rosmarinus convaria*, because in times past, women

A note for garden weed-ers.

Dill.

Dill is good to expel wind, provoke urine, engender milk in nurser breasts, &c.

An old custom.

Rosemary.

* Lib. 19 c. ult.

Good against
stinking
breath.

To make the
face fair.

To prevent the
Palsies, and
strengthen the
stomach.

To cure mel-
ancholy.

* Note also
that the flow-
ers boyled in
Goats milk
are good for
the Pissick.

You must keep
covered, and
drick it cold.

* To cure a
stiffing in the
head.

* To scour the
teeth, and kill
the worms in
them.

have been accustomed to make Garlands, or Crowns of it, is an herb which is hot and dry in the second degree, and of an astringent or binding quality. The Greeks call it *αἰθάρης*; from *αἶθερ*, Thus, or *arbor thursifera*; and so also * *Pliny* nameth it, because it hath a root like to the frankincense Tree; or because the flowers smell much like to Turpentine, or Frankincense: which Flowers, if they be distilled, and if a few Cloves, Mace, Cinamon, and a little Anniseed be steeped in their water for a few dayes together, and druns at morning and evening first and last, it taketh away the stench of the Mouth and breath, and maketh it very sweet, quickening the senses and memory, strengtheneth the sinewy parts, and is best for those who have a cold moist Brain. The same Wine that *Rosemary* and the flowers have been sodden in, is good to wash the face and hands that they may look fair and clear.

Also the conserve of *Rosemary* flowers, taken every morning fasting is good against Tremblings, Faintings, Palsies, &c. helping those who have a trembling at the heart, or are troubled with a dumb Palsie, or are subject to vomit up their meat. And for dull melancholly men, take the * flowers and make them into powder, bind them to the right arm in a linnen cloth, and this powder (by working upon the veins) shall make a man more merry and lightsome than ordinary. * Take also the rind of the *Rosemary* and make powder thereof, then drink it in a little wine, and it helpeth you of the pisse or stuffing in the head, if it proceed from the coldness of your brain. Also the Wood of the stalk burnt to coals, and made into power, and put into a linnen cloath, is excellent to rub the teeth that they may look white, and to kill the worms in them if there be any, or to keep them from breeding if there be none. These, and sundry other are the properties of *Rosemary*.

I could wish that there were a greater plenty of this herb in *England* than there is. *France* hath great store;
in

insomuch that at *Prevence* it is used for a common fuel, the unlaboured grounds do so much abound with it.

Of *Aconite* or *Wolf-bane* there be many kinds; and the forces of them all are extreemly pernicious and poisonfom: for it is reported that if either man or beast be wounded with an arrow, knife, sword, or any other instrument dipped in the juice of this herb, they die incurably within half an hour after.

And know that it is called *Wolf-bane*, because men hunting for Wolves, used to poyson pieces of raw flesh with the juice of this herb, and lay them as baits, on which the Wolves eating, die presently.

It hath a root like a scorpion, shining within like Alabaſter. Poets feign (because it is such a venomous herb) that *Cerberus*, the three headed dog of Hell, being dragged up in a chain of Adamant by *Hercules*, did cast some of his venome upon it, whereby it became so venomous.

Yet nevertheless, as great and deadly a poisoner as it is; the juice of it cures the burning bite of stinging serpents, if it be taken and applied to the place grieved.

Wherupon *Du Bartas* calleth it

*A valiant venome, and couragious plant,
Disdainful poyson, noble combatant,
That scorneth aid, and loves alone to fight,
That none partake the glory of his might.
For if he find our bodies fore possest
With other poyson, then he lets us rest,
And with his rival entreth secret strife,
By both whose deaths man keeps his wished life.*

Mullein, or *Flea-bane*, in Greek *κωνια*, in Latine *Conyza*, is hot and dry in the third degree.

This herb burned and smoaked where flies, gnats, fleas, or any venomous things are, doth drive them away.

Ladies mantle, or great *Santicle* is an herb of a drying nature. It is good to keep down maidens paps or dugs; and when they be great and flaggy, it maketh them lesser and harder. *Ger. Herk* pag. 803.

Wolf-bane.

An incurable poyson.

A strange property in a poysoning herb.

Flea-bane.

Good to drive away Gnats and Fleas &c. *Ladies mantle.*

An herb for Maids.

Butter.

Buttermort.
How sheep
may catch a
rot.

Buttermort is a kind of *Sanicle*; and it is hot and dry in the third degree. It is reported that when sheep eat of this herb (which is but when the want of other meat compels them) they then catch a rot.

An excellent
herb for Far-
mers.

Yet nevertheless, if it be bruised, the juice makes a good ointment for the duggs of cattel or kine, when they be either bitten by any venomous worm, chapped, rifted or hurt by other means. It is requisite that farmers and husbandmens wives should be well acquainted with this herb: as also that shepherds should know what ground aboundeth with it, that thereby they may prevent a mischief in their flock.

Horehound.

Horehound, called in *Greek* *ὑποκρίνον*, in *Latine* *Marrubium*, is an herb hot in the second degree, and dry in the third.

A cure for a
cough of the
lungs.

Saffron.

The syrup of this herb doth wonderfully, and above credit ease such as have lien sick very long of a cough or consumption of the lungs: the like doth *saffron*, bringing breath again, when one is even at deaths door, if ten or twenty grains at the most (for too much is hurtful) be given in new or sweet wine. *Saffron* is hot in the second degree, and dry in the first. And of it thus writeth the *Salern* School*,

* Transl. by
Sir John Ha-
rington.

*Take Saffron, if your heart make glad you will,
But not too much, for that the heart may kill.*

Hyssop.

Hyssop, in *Greek* *ὕσσωπος*, and in *Latine* *Hyssopus*, is an herb hot and dry in the third degree; whose chief vertues are briefly comprehended in these few verses of *Schola Salerni*,

Hyssop pur-
geth the
breast, and
puts a good
colour in the
face.

*Hyssopusque herba est, purgans è pectore phlegma:
Ad pulmonis opus cum melle coquenda jugata.
Vulnibus eximium fertur prestare colorem.*

The Hyssop is an herb to purge and cleanse Raw flegms and hurtful humours from the breast: The same unto the lungs great comfort lends, With honey boild: but far above the rest,

It

It gives good colour, and complexion mends,
And is therefore with women in request.

Mr. Gerrard setteth down the virtues of it thus ;

1. A decoction of *Hyslop* made with figs, and gargled in the mouth and throat, ripeneth and breaketh the tumours and imposthumes of the mouth and throat, and also ceaseth the difficulty of swallowing, coming by cold rheums.

Good for the throat.

2. The same made with figs, honey, water, and rue, and drunk, helpeth the inflammation of the lungs, the old cough, shortness of breath, or the obstructions or stoppings of the breast.

Good for the lungs and breath.

3. The syrrup or juice taken with the syrrup of vinegar, purgeth tough and clammy flegm by stool, and driveth forth worms, if it be eaten with figs.

Good against worms.

4. And the water (saith he) is also good for the fore-named diseases ; but nothing so speedy and forcible.

Water-Cresses, which the Latines call *Nasturtium aquaticum*, or *Sisymbrium aquaticum*, and the Greeks *αἶν*, are of nature hot and dry. They help maidens of the green sickness, and send their accustomed lively colour again into their faces, if they take them thus, viz. chop them and boyl them in the broth of flesh, and use to eat such broth for a month together, at morning, noon, and night.

Water-Cresses.
Good against the Green-sickness.

Also being taken in the same manner they provoke urine, waste the stone, and drive it out. *Ger. pag. 201.*

Good against the stone.

Sothernwood; in Greek *ἀνθίσκος*, which name it also retaineth in the Latine, is hot and dry in the end of the third degree.

Sothernwood

It is said that the ashes of burnt *Sothernwood* brought to a powder, and tempered with the oyl of radish, or some other thin oyl, cure the pilling of the hair from the head, and cause the beard to grow quickly. The same doth also the juice of this herb mixed with the oyl of *Dill*.

Good to make the beard to grow.

Pliny writeth (which you may believe as you list)
that

A strange secret.

that a branch of this herb laid under the Pillow of the bed, doth greatly move a desire to the venereal act; and is of force against all charms that have been to hinder it. *Plin. lib. 21. cap. 21.* But I think the best time to try this, is upon *St. Jefferies* day, which is neither before *Christmas* nor after it.

One Berry.
Good against
peevisheues.

There is an herb called *Herba Paris*, *One berry*, or *Herb-True love*; so called because at the top of the stalk it beareth four leaves like unto a True lovers knot. This herb is good for such as are peevishe and childishly foolish for they know not what; let them drink half a spoonful of the powder, or of the berries at morn and even.

Ger.

Dittany.

Dittany, called of the *Greeks* *διττανύον*, and in Latine *Dictamnium*, is an herb hot and dry. There are two kinds of it; *Dittany of Crete*, and *Bastard Dittany*.

* *Lib. 25 c. 1.*
An herb for
the wounded
Deer.

That which is the true *Dittany*, is of wonderful operation. * *Pliny* saith that it groweth onely in *Crete*, or *Candie*, and is beneficial to the wounded *Deer*: For the wild *Goats* and *Deer* in *Candy*, when they be wounded with arrows or darts, do shake them out by eating of this herb; and it also healeth their wounds.

The *Bastard Dittany* hath vertues somewhat like to the first, but not of such great force. And of the first *Dn Bartas* writeth thus,

*But I suppose not that the earth doth yield
In hill or dale, in forrest or in field,*

A rarer plant than Candian Dittany,

Which wounded Deer eating, immediately

Not onely cure their wounds exceeding well,

But 'gainst the shooter do the shaft repell.

Cuminum.

Cuminum, in the *Greek* *κίμινον*, and in Latine *Cuminum*, is hot and dry in the third degree.

To make the
face fair.

The seeds of this herb sodden in water, if the face be washed with the same, do cause it to be clear and fair: yet use it not too often; for then it breedeth paleness:

it is good therefore for such as be high-coloured, or have too much blood in their cheeks.

Moreover, chew this feed in your mouth after the eating of onions, garlick, or leeks, and it taketh away their smell. The smoak of this herb driveth away gnats.

Also it stoppeth a bleeding at the nose, being tempered with vinegar and smelt unto.

Mint is in Greek *ιδιόρυμ*; from *ιδός* Sweet, and from *ιδρύω* Smell: and this, saith **Pliny*, is the reason why it is not rather called *ιδρύς*. Moreover, as he also affirmeth, the smell of it stirreth up the mind, and must therefore be good for students; good also against the biting of Scorpions. It stayes vomiting, stops the Terms, helps sore heads in children, strengthens the stomach, and helps digestion.

But let the good huswife never use to rub her milk-bowls with *Mints*: For *Mints* put into milk will not suffer the milk to curd, although the runnet or running (as they call it) be put into it. This herb is hot and dry in the third degree; and as *schola Salerni* witnesseth, is good against worms.

The worms that gnaw the womb and never stint,

Are kill'd, purg'd, and driven away by Mint.

Mustard, or *Servie*, called in Greek by some *σιν*, by others *σινάπ*, and in Latine *sinapi*, or *Sinapsium*, is hot and dry in the fourth degree, and is marvellous good against a voice that is hoarse: wherefore, if any be given to musick, and would fain have a clear voice to sing, let him make mustard seeds into powder, and work the same with honey into little balls, of the which let him swallow one or two down every morning fasting, and in short time his voice will be clear.

Moreover, *Mustard* hath another good property, which must not be forgotten; and this it is:

**She that hath had a husband bad to bury,*

And is therefore in heart not sad, but merry,

Yet if in shew good manners she would keep,

Onions and Mustard seed will make her weep.

F f

Peniryal

To drive away gnats.

For bleeding at the nose.

Mint.

* Lib. 19. cap.

8. & lib. 20.

cap. 14.

Good for students.

A note for good huswives

Good to kill worms.

Mustard.

To make one sing clear.

~ Sir John
Haringtons
Transl. of Schola
Salerni.
How a woman
may save her
credit.

*Penuryal.*Good against
drowfincis.Good against
choler and the
gout.*Briony.*Good against
scarres, spots,
freckles, &c.An herb for
Tanners.*Madwort.*

Penuryal, or *Pudding-grass*, in Greek *παρυον*: and in Latine *Pulegium*, or *Pulegium regale* (for difference between it and wild *Tyme*, which some call *Pulegium montanum*) is an herb hot and dry in the third degree, and good for such as are daily moved to sleep: For let them but take the fresh *Penuryal* and hold it in their mouth, under their tongue: and by often applying the fresh herb, they shall drive away the desire of sleep.

Moreover, according to *Schola Salerni*,

Let them that unto choler much incline,

Drink Penuryal steeped in their wine:

And some affirm that they have found by tryal,

That Gouts great pain is eas'd by Penuryal.

Briony, or the *white vine*, as it is commonly called, is of two kinds; the one white, the other black; besides the wild one, which is *Brionia silvestris*. This plant is called in Greek *βριονια λευκη*, in Latine *Vitis alba*: but according to *Pliny*, it is *Brionia*, or *Madon*.

White *Briony* is in all parts hot and dry, exceeding the third degree.

It scoureth the skin, taketh away wrinkles, freckles, sun burning, black marks, spots, and scarres of the face, if the juyce be tempered with the meal of vetches, or tares, or of fenugreek, or boiled in oyl till it be consumed: it taketh away black or blew spots which come of stripes.

And, as *Galen* affirmeth, it is a plant profitable for tanners, to thicken their leather hides with. *Ger. ex Galen.*

Madwort, or *Moon-wort*, in Greek *αλυσσιν*, in Latine *Alyssum*, or *Lunaria*, is an herb of a temperature meane, dry, and very like to *Horehound*, but rougher and more full of prickles about the flowers; the colour of which flowers are tending to blew: the leaves are small and fashioned something like an heart, with a crooked line along the same, divers tufts depending on a long tail, on both sides: somewhat long, flat, and divided on the one side by crooked sittings, which seem to be round holes;

tho

the entry whereof is raised both on the one part, and on the other. The stalks thereof are made with hollow angles, garnished with gross branches; and the grain in the eod, is made like a crescent with two horns: from whence it is called *Moon-wort*, or *Lunaria*. Thus I find it described: and note also that the root is slender; and about some four fingers long.

I meet sometimes with many strange reports concerning this herb: and who more highly esteem it than the Alchymists? because it seemeth to be a thing very proper to them, and peculiar for their use in making of silver. The *Italians* call it, *Unshoe-the-Horse*; because, if they tread upon it, they lose their shoes, and are freed from their locks and fetters.

This is an herb of a strange property. For it is an herb that unshoeth horses, and the like.

*Oh Moon-wort tell us where thou bidd'st the smith,
Hammer and pincers thou unshoo'st them with.
Alas! what lock or iron engine is't
That can thy subtil secret strength resist,
Sith the best Farrier cannot set a shoe
So sure, but thou with speed canst it undo?*

Du. Bart.

These secrets are strange, and somewhat are they strengthened by that which *Pliny* writeth of the wood-pecker, who, by the means of a certain herb, draweth the wedges out of the holes in trees, which shepherds have driven in: yea nails, or any other such like wedges, are fetched out by the virtue of this herb. Thus *Pliny* relateth, and he alledgeth one *Trebius* for his witness. See *Plin. lib. 10. cap. 18.*

Mr. *Gerard* saith that it is sown now and then in gardens, especially for the rareness of it; but the seed (saith he) is brought over either from *Spain* or *Italy*. But why may it not grow in other places? I remember what a friend of mine, of good credit, once told me, that his Grandfather had a close, wherein it was a common thing to find their horses unfettered in the morning, although they were fast shackled over night: he named also the place; but I have now forgotten it. Here do I

Good against
the biting of a
mad dog.

Parsley.

How sick
Harts cure
themselves.

Thyme.

Good against
the falling
sickness, and
troubled
minds.

suppose might grow some of this herb, if there be any such to work these feats.

But to omit these strange narrations, let me acquaint you with that excellent property which *Galen* mentioneth; namely, that if it be given to such as are enraged by the biting of a mad dog, it doth perfectly cure them. *Ger. Herb. pag. 380.* It is therefore also called *Madwort*.

Parsley is an herb hot and dry; hot in the second degree, and dry almost in the third. There be many kinds of *Parsley*; and every one of them, according to the Greek, are called *πάρσλι*, and in Latine, *Apium*, *Petrapium*, and the like. But know that there is *Apium hortense*, garden *Parsley*; and *Apium palustre*, water *Parsley* (which is *Smal-lage*) and *Apium montanum*, mountain *Parsley*; and *Petrapium*, or *Petroselinum macedonicum*, which we in England call *stone Parsley*. Moreover, some say that *Alisan-ders* are called the great *Parsley*; and again, there is *Apium sylvestre*, wild *Parsley*.

Elisavius reporteth, in the thirteenth Book of his variable history, that when the Harts stand in need of a remedy against any dangerous disease, they then use to eat wild *Parsley*.

There be generally two sorts of *Thyme*; the wild and the garden *Thyme*: and both are hot and dry in the third degree.

The wild is called in Greek *ῥέλας*, in Latine *Serpillum*, à *serpendo*, from creeping: for so it grows, and creeps upon the ground from place to place.

The garden *Thyme* is called *Thymum durum*, and in Greek *θύμιν*, which is a general name for all kind of *Thyme*.

Bees are greatly delighted with this herb: and for such as are subject to the falling sickness, let them use to smell unto it. Also, it being made into powder, is good for such as be fearful, melancholly, and troubled in mind, if it be taken in Mead, or a honied vinegar which is called *Oximel*. *Ger.*

Ar/mart,

Arsmari, or *water Pepper*, groweth almost in every waterish plath, or near unto the brims of rivers, ditches, and running brooks. In Greek it is *ὕδρινμα*, in Latine *Hydropiper*, or *aquaticum*. It is hot and dry of temper.

Water Pepper.

The leaves of this herb rubbed upon a tired jades back, and a good handful or two laid under the saddle, doth wonderfully refteth the wearied horse, and causeth him to travel much the better: and note that this is to be done as soon as he beginneth to tire.

An herb which will help the tiring of a jade

Peonie, in Greek *παονία*, in Latine *Paonia*, and *Dulcisida* is an herb hot and dry.

Peiony.

The black grains or seeds of the male *Peonie* bruised, and given to drink in mead or wine help melancholly dreams, cure the disease called *Ephialtes*, or *Nightmare*. A Syrup made of the flowers doth greatly help the falling sickness. And, as *Galen* hath found by sure and evident experience, (saith Mr. *Gerard*) the fresh root tied about the necks of children, doth the like cure: but unto those that are grown, the said root must be administred in some syrrup or decoction, and taken inwardly, or else it helpeth not.

A medicine for the Marc, melancholly dreams, falling sickness, &c.

Spear-wort, or *Bane-wort*, is an herb which if it be taken inwardly, is deadly. It groweth by ditches and river sides, and waterish places.

Spear-wort.

Cunning Beggars do use to stamp the leaves of this herb and lay them to their legs and arms, which cause such filthy ulcers as we daily see among such wicked vagabonds (for they will raise blains and blisters) and by this practice they hope to move the people to the more pity. But let not the abuse extirpate the right use: for the learned affirm that it prevailleth much towards the drawing of a Plague-sore from the heart and inward parts. In Greek it is called *παντοφύλλον*, and in Latine *Ranunculus longifolius*. Moreover, it hath also the name of *Bane-wort*, because when Sheep feed on it, they have their livers inflamed, their guts and entrails fretted and blistered.

An herb which beggars use to blister their arms and legs withal.

- Sulphur-wort.**
Good for children.
- Feverfew.**
- Good against a Vertigo.**
- Good to drive away sadness.**
- Monseare.**
Good to harden edge tools
- Celandine.**
- Lib. 5. c. 28.**
- blistered by it. It is hot and dry in the fourth degree.
- Sulphur-wort* or *Hogs Fennel*, in Greek is *μαυρίδιον*, in Latine *Pencedanum*, or *Feniculum porcinum*. It is hot in the second, and dry in the beginning of the third degree; and is used with good success against the ruptures and burstings of young children; being very good to be applied to their navels, if they start out over much.
- Feverfew*, called in Greek *παρακλάδιον*, or else *αγριόριον*, and in Latine *Parthenium*, is hot in the third degree, and dry in the second. If it be bound to the wrists, it helps away the Ague.
- Also this herb dried and made into powder, is good against a swimming and turning in the head, if some two drams of it be taken with honey or sweet Wine.
- Also it is good for such as be melancholy, sad, pensive, and not desiring to speak.
- Monseare*, or *Pilosella*, is hot and dry. The decoction or the juice of this herb is of such excellency, that if steel-edged tools glowing hot be often cooled therein, it maketh them so hard that they will cut stone or iron, be it never so hard, without turning the edge or waxing dull. It helps also the swellings of the Spleen, Coughs of the Lungs, &c.
- Celandine*, or *swallow wort*, in Greek is *χελιδόνιον*, in Latine *Chelidonium*. This herb is hot and dry in the third degree. Some say, that it was thus named because (as * Pliny writeth) it springeth at the coming of the Swallows, and withereth at their departure: which, I suppose, is false, seeing it may be found all the year. That therefore which he writeth in his 8th Book, the 27th chapter, did rather occasion the name: For (saith he) the swallows have demonstrated unto us, that *Celandine* is good for the sight, because when the eyes of their young ones be out, they cure them again with this herb. Whereupon one writes out of *Chela Salerni*, thus,
- An herb there is takes of the Swallows name,
And by the Swallows gets no little fame.

For Pliny writes (though some thereof make doubt)

It helps young Swallows eyes when they are out.

Also, the root being chewed is reported to be good for the tooth-ach : and a pultis of the leaves is good for sore breasts.

Good for the tooth ach.

Angelica is hot and dry in the third degree. It is an enemy to poysons, and cureth pestilent diseases, if it be used in time : yea, the very root chewed in the mouth is good against infection ; or a dram at once in powder.

Angelica.

Contagious air, ingendring pestilence,

Infects not those who in their moul's have tane

Angelica, that happy counter-bane.

Du Bart.

Dragon is an herb much like to *Angelica* in operation, if the distilled water be drunk : onely observe that the smell of *Dragon* flowers are hurtful to women newly conceived with child. *Ger.*

Dragon.
Ill for women with child.

Sowbread, or *Swines-bread*, is an herb hot and dry in the third degree. In Greek it is *πικλάριον*, and in Latine *Tuber Terra*.

Sowbread.

This herb is also dangerous for women with child either to touch, take, come near, or stride over it : For, without controversie (as *Mr. Gerard* affirmeth) it maketh them be delivered before their times. He therefore, having it growing in his garden, used to set sticks or bars, that such a danger might be thunned. And this effect he attributeth to the extraordinary natural attractive virtue in it. *Dioscorid's* and *Matthiolus* do not deny the said marvellous operation : and *Du Bartas* remembreth it thus,

A dangerous herb for women with child.

If over it a child great woman stride,

Instant abortion oftendash betide.

Lavender (as is supposed) is but the female plant of that which we call *Spike* : and being sweet in smell, it is used in baths and waters to wash the hands : in which regard it is called *Lavender*, or *Lavander*, from the Latine word *Lavo*, to wash. The smell of it helps swoonings, and the oyle of it, (commonly called the oyle of

Lavender.

Spike)

Leeks.

The discom-
modity of
Leeks.

Onions,
Good against
barrelnets and
bleeding.

Good against
warts and
burnings.

A medicine to
be used at the
death of a
threw.

Garlick,

spike) helps the running of the reins they being annointed with it, it expels worms, two drops of it being taken in wine. The Region of the back being annointed with it, helps the Palsie.

Leek is hot and dry: the Greeks call it *ακαρα*, the Latines *Porrum*; according to which name, *Nero* the Emperor was called. For, because he took great pleasure in this root, he was named in scorn, and called *Porrophagus*.

Leeks are not good for hot and cholerick bodies, because if they be eaten often, they ingender naughty blood, hurt the head, dull the sight, and make one to be troubled and affrighted with terrible dreams.

The like may be said of *Onions*. And yet (according to some) the water of the distilled roots, being done in *June*, and drunk often by women that are barren, helpeth them: As also the same water helpeth the bleeding at the nose, if fine cotten be dipped in it, and put up into the nostrils.

And of *Onions* it is likewise written, that if they be bruised, and mixed with salt and honey, they will then destroy warts, and make them fall off by the very roots. And note that a raw Onion applied, will take the fire out of burnings.

Also there is another property in *Onions*, which, (when I had little else to do) I observed in this following Epigram.

*He that a bad wife follows to the grave,
And knows not how, for joy, a tear to crave,
May Onions use to make him weep in shew;
For who can weep indeed to lose a shrew?*

Garlick, called in Greek *σινδωρ*, and in Latine *Allium*, is hot and dry (as *Galen* writeth) even unto the fourth degree. It is called the countrey mans Treacle, and hath many good properties: And amongst other things, one thing very strange I find recorded of it; viz. that though the often eating of it do harm the whole and perfect sight, yet the moisture or juice infused in-

to the eyes, doth comfort a dull sight. It is said that the strong smell of *Garlick* is put away by the chewing of *Cummin-seed* : or by eating a green bean or two after it. It breeds naughty and corrupt blood ; but provokes Urine, and expels Wind.

Also I find, that if a Woman doubt of her being with child, let there be set all night by her bed side some *Garlick*, and if she smell it not, then she may conclude that she hath conceived, or with child.

Sleep not presently after the eating of *Radish*, for that will cause a stinking breath.

And withal let this be noted, that the *Parsnep* and *Carret* are hot and dry about the third degree. The *Turnep* is hot and moist : This is a root which is eaten of Men, but loathed of Swine. The *Skirret* is moderately hot and moist. The *Artichoke* is hot and dry unto the second degree. The *Elecampane* is hot in the third, but dry in the second degree ; and the chief vertues of it are to open the breast, or to help shortness of wind caused by tough flegm, which stoppeth the Lungs. Also it openeth oppilations of the liver and spleen, and comforteth the stomach, as saith *Schola Salerni*,

Enula campana, hæc reddit præcordia sana, &c.

Elecampane strengthens each inward part, Aswageth grief of mind, and cheers the heart.

A little looseness is thereby provoken ;

It quelleth wrath, and makes a man fair-spoken.

The *Rape* is also of an hot temper. And *Tarragon* is hot and dry to the third degree. The *Red Darnel* is hot also, and good to be drunk for pissing the bed.

Of *Tobacco*, or (as it is commonly called) *Tobacco*, there be principally two kinds, saith Mr. Gerard : one greater, the other less. The greater was found in those Provinces of *America* which we call the West Indies. The lesser comes from *Trinidad*, an Island near unto the continent of the said *Indies*. To which some have added

How when a woman doubteth, she may know whether she be with child.

Parsnep.

Carret.

Turnep.

Swine eat no

Turneps.

Skirret.

Artichoke.

Elecampane.

The vertues of
Elecampane.

Rape.

Tarragon.

Red Darnel.

Tobacco.

The kinds of
Tobacco, and
where it was
first found.

The name of
Tobacco.

a third sort. And since the first discovery, there hath been Plantations made in divers other places.

The people of *America* call it *Pecum*: others *Sacra herba*, *Santa herba*, & *Sana sancta Indorum*. The reason being (as I take it) because when the *Moors* and *Indians* have fainted, either for want of food or rest, this hath been a present remedy unto them to supply the one, and help them to the other. And some have called it *Hyoscyamus Peruvianum*, or *Henbane of Peru*; which also Mr. Gerard assemeth unto, verily thinking that it is a *Species Hyoscyami*. (for there be more kinds of *Henbane* than one) chiefly in regard of the quality; because it bringeth drowiness, troubleth the senses, and maketh a man as it were drunk, by taking the fume only; which they, who be not used to take it, may and do easily perceive. Of some it is named *Nicotiana exotica*, from the foresaid effect; and by *Nicolas Monardus* 'tis called *Tobacco*. Who further saith that it is hot and dry in the second degree.

The quality of
Tobacco.

The virtues of
Tobacco.

The Physical and Chirurgical uses of it, are not a few; and being taken in a Pipe is good against tooth-ach, and helpeth aches in any part of the body; provokes to stool, and is good also for the Kidneys by expelling wind: as they without doubt may find, whose bodies are not too much habituated to it. But I believe that many, by taking of it overmuch, lose the full benefit of those good effects; and may find that it will make them tender, dull the sight, spoil the memory, and very much subject them to the catching of cold; for though it heat and dry the body, it openeth the *Pores*. Howbeit they who have used themselves to it, in a continued and settled way of taking, either when they are sweating hot and weary, after meals, or at such other hours as they have been used to, know not well how to leave it; neither on the sudden could they safely do it. But some commend the Syrrup before the smoke: yet th smoke (say they) Physically taken, is to be tolerated, and may do good
for

for Rheums, with the other forenamed maladies. In a word, all complexions are not for it, nor all courses of life a like fitted to make this good use of it; for I speak not of swearing swilling Swaggerers whose course no doubt all sober Men will condemn, as well in the abuse of this, as in those other good Creatures of God, which in riotous distempers they expose to the vassalage of their licentious Lives. The Sedentary life, if the Complexion gainsay it not, best suiteth with it; so do all Phlegmatick and gross bodies, as I think will not be denied.

But above all I remember an excellent Oyntment or Salve which I am taught to make of green *Tobacco*: the receipt whereof is thus. Take two pounds of the green leaves of *Tobacco*, Hogs greafe well washed, one pound: stamp the herb small in a Stone-Mortar, putting thereto a small Cup full of Red or Claret Wine: stir them well together, cover the Mortar from Filth, and so let it rest until the Morning: then put it to the Fire with the Greafe in it, and let it boyl gently, continually stirring it until the Wine be consumed; then strain it and set it to the fire again, putting thereto one pound of the juice of the herb it self (I mean *Tobacco*) and of Rozin or *Venice Turpentine* four ounces; boyl them all together to the Consumption of the juice: then add thereto two ounces of round *Austochia*, or *Birchwort* Roots, in most fine Powder, with as much new Wax as is sufficient to give it a body: and so thou hast made an accurate Oyntment or Salve for Wounds, or for old filthy Ulcers of the Legs, &c. N-y, saith one, it would ask a whole Summers day to write the particular vertues of this Oyntment, and my poor *Genius* is too weak to give it (saith he) the hundredth part of its due praise; It cures Tumours, Aposthumes, Wounds, Ulcers, Gun-shot, Botches, Scabs, Itch, stinging with Nettles, Bees, Wasps, Hornets, Venomous Beasts, Wounds made with poysoned Arrows. It helps Scaldings though made

An excellent Salve or Oyntment to be made with *Tobacco*.

The vertues of the foresaid Salve, as they be set down by Mr. Culpepper in his translation of the *London Dispensatory*.

with Oil, Burnings though with Lightning, and that without any fear: It helps nasty, rotten, stinking, putrified Ulcers, though in the Legs, whither the humors are more subject to resort; in *Fistulaes*, though the bone be afflicted it shall scale it without any Instrument, and bring up the flesh from the very bottome. Would You be fair? Your Face being annointed with this, soon will the Redness, Pimples, Sun-burning vanish. A Wound dressed with this, will never putrefie. A wound made with so small a Weapon that no vent will follow, annoint but with this, and you need fear no danger. If you have the head ach, annoint your Temples with this and you shall have ease; The Stomack being annointed with this, no infirmity dares harbour there, no not Astmaes, nor Consumption of the Lungs; The belly being annointed with it helps the Chollick and *Thick* passion, the Worms, and what not? it helps the *Hemorrhoids* or *Hales*, and is the best Oyntment that is, for *Gouts* of all sorts. Finally, there may be as Universal a Medicine made for all diseases of *Tobacco*, as of any thing in the World: And therefore, Oh *Joubertus*! Thou shalt never want praise for inventing this Medicine, by those that use it, so long as the Sun and Moon endureth.

Ger. in his
Herbal.

Master *Gerrard* saith, that the Women of *America* do not use to take *Tobacco*, because they perswade themselves it is too strong for the constitution of their bodies. But it seems they have abandoned that perswasion since the time he wrote: for now the very Women and Children there, take it as well as the Men; as they who have been in *Virginia* tell us. And so in *England*, some Women use it often, as well as Men; yea, in the West parts of *England*, the Children are so addicted to it, that at their Break-fasts and Beavers (when they either go to, or come from School) they had rather have a pipe of *Tobacco*, than a piece of Victuals. And so in some other places too, as I have heard it credibly reported.

The

* The first coming of this herb into *England* was in the 28 Year of *Queen Elizabeth*, in the year of our Lord 1585, being first brought in hither, either by Sir *Francis Drake*, or by some of his Mariners, three years before *Tilbury Camp*. But leaving this, I come next to *Betony*.

* When *Tobacco* came first into *England*.

Betony in Greek *αἰθώνη*, in Latine *Betonica*, and *Vetonica*, is hot and dry in the second degree.

Betony.

This herb hath an infinite number of sovereign virtues, being very good for the head; taken by some in a Pipe, as *Tobacco*, and not seldom mixed with *Tobacco*: it helpeth also the bitings of mad dogs by drinking the juice or powder of it, and by binding the green leaves to the bitten place.

* *Pliny* relateth a strong property pertinent to this herb: for, saith he, if fell serpents be enclosed round about with it, they fall at such odds that they kill each other presently. This herb is also good to help Women in their Travel.

* *Plin. l. 25. c. 8.*

Ferne. There are two kinds of *Ferne* or *Brakes* as *Dioscorides* writeth; the Male and the Female: but in leaves are very like to one another. Their leaves spring forth in *April*, and wither or fade in *September*. Both kinds are hot and dry in the second degree. The use of *Ferne* is very dangerous for Women, especially those that are with child.

Ferne.

Dioscorides denieth that the *Ferne* hath any Fruit, and thereby that it hath any Seeds: but not only the opinion of the common people is that the *Ferne* hath seed, but also that it is the affirmation of *Hieronimus Tragus*, a Christian Physician; who doth not onely say it, but writeth that upon *Midsummer Eve* he found seeds upon the *Brakes* or *Fernes*. His words are these, as they be mentioned by Doctor *Turner* in his *Herbal*. Although (saith he) all that have written of Herbs have affirmed and holden that the *brake* hath neither seed nor fruit, yet have I divers times proved the contrary, which thing I will testifie here in this place for their sakes that be

Stu

Students in the knowledge of Herbs. I have four years together (one after another) upon the *Vigil* of *John* the Baptist, which we call in English *Midsummer-Eve*) sought for this seed of *Brakes* upon the night, and indeed I found it early in the Morning before the day brake: the seed was small, black, and like unto *Poppy*. I gathered it after this manner: I laid sheets and *Mollien* leaves under the *Brakes* which received the seed that was (by shaking and beating) brought out of the branches and leaves. Many *Brakes* in some places had no seed at all, but in other places again there was seed in every *Brake*, so that a Man may gather an hundred out of one *Brake* alone. But I went about this businesse, all *Figures*, *Conjurings*, *Saunters*, *Charms*, *Witchcraft*, and *Sorceries* set aside, taking with me two or three honest men to bear me company. When I sought this seed all the Villages about did thine with *Bousiers* that the People made there, and sometime when I sought the seed, I found it, and sometime I found it not. Sometime I found much, and sometime little: but what should be the cause of this diversity, or what Nature meaneth in this thing, surely I cannot tell. Thus far *Tragus*: but what the seed is good for, he hath not said. Only *Doctor Turner* gathereth, by no vain conjecture, that, in healing of divers griefs it is of greater power and strength than either the root or leaves. Some write that if the root of the Male *Terne* be cut in the midst, it will shew on each side a black Eagle with two heads of White.

And thus hitherto I have spoken of such parcels of Dame *Tellus* store, as are only hot of temper: unto which I might add yet thousands more; whether they be such as are pleasant in shew, sweet in smell, delicate in taste, wholsom in operation, and the like: but the Earth you know is large: and because I am to see something every where, I cannot stay long any where; lest the fourth day dawn, before the third be finished.

These

These herbs following are cold and moist.

IN the next place therefore I must bring to your admirations some other parcels of another temper, wherein you may likewise see Gods wisdom flourishing: for at which soever we look, there is a secret virtue that he hath infused into every one, in which regard divine *Du Bartas* thus,

*Good Lord! how many gasping souls have scape
By th' aid of herbs, for whom the grave hath gap't:
Who even about to touch the Stygian strand,
Have yet beguild grim Pluto's greedy hand!
Oh sacred simples that our life sustain,
And when it flies can call it back again!
'Tis not alone your liquor, mite tane,
That oft defends us from so many a bane:
But even your savour, yea, your neighbourhood
For some diseases is exceeding good.*

As for example, *Tarrow* (as most men say) when the leaves are green and chewed, doth help the tooth-ach. Also the leaves being put into the nose, do make it bleed, and is a remedy for the megrim, a pain in the head. It is an herb meanly cold in temper, and called in Greek *αχίλλειον*, in Latine *Achillea*, because it was first found out by *Achilles*, the disciple of *Chiron*, and with it he cured his wounds, *Vide Plin. lib. 25. cap. 5.* It is also said to stop Lasks, and the Terms in women, and to help the running of the reins.

Sowthistle is cold: the Greeks call it *σάγγις*, the Latines, *Sonchi*. If it be given in broth, it increaseth milk in nurses breasts, causing the children nursed by them, to have a good colour and clear complexion.

Groundsel is said to have mixt faults: for it cooleth, and withal digesteth. The Latines call it *senecio*, because it quickly waxeth old: some also call it *Herb-annus*.

Tarrow.
For the tooth-
ach head-ach,
&c.

Sowthistle.
An herb for
Nurses.

Groundsel.

The

Good against
the fiers &c.

The leaves of this herb stamped and strained into milk, and drunk, are good against the Red-gum, and frets in children.

Comfrey.

Comfrey is somewhat cold of quality, and of a clammy and gluing moisture. It is highly commended of the learned for curing of wounds, especially of the intrals and inward parts, and for burstings and ruptures; insomuch that they affirm the slimy substance of the root made in a posset of ale, and given to be drunk, cureth the pain in the back gotten by any violent motion, as wrastling, and the like; to which some add the overmuch use of Venus: for in four or five dayes they are perfectly healed, although there be an involuntary *fluxus seminis* gotten thereby. In Greek it is called *σινγκυρα*, in Latine *Symphitum*, and *Solidago*, or *Consolida major*.

Good for to
cure any
wrench in the
back and the
like grief.

Lilies.

Good against
the same infir-
mities.

The *water-lilies* are also highly esteemed for their virtues in curing some of the like infirmities: for those which are skilful do affirm that a decoction of the white or yellow *water-lilie* made of the seeds, roots, or leaves, is singular good against nocturnal pollutions, caused by dreams, or otherwise. The same cure is also wrought by the green leaves laid upon the region of the back in the finall, and two or three times a day removed, and fresh applied. *Ger.*

The Greeks call this *Water-lilie νύμφαια*, the Latines *Nymphaea*: because it takes such delight to grow in the water.

Lettice.

Lactuca, in Greek *σπινθ*, and in English *Lettice*, is temperately hot and moist in the second degree.

Harm in too
much *Lettice*

It cooleth a hot stomach called heart-burning: and, in nurses that are hot and dry, it procureth milk: otherwise not. But it must never be eaten immoderately: for ancient Authors affirm, that generally it hindereth conception by wasting of sperm; and if it be not eschewed of women with child, it is a great means to make them bring forth children either raging in mind, or foolish in wit.

Also,

Also, the use of *Lettice* is to be avoided of all that be short-winded, and spit blood, or be flegmatick; they may not eat it often. Yet he that would live honestly unmarried, let him not refuse this medicine set forth by *Dioscorides* and *Galen*, (as the Author of the haven of health affirmeth) viz. let him bruise *Lettice* seeds, and often put them in his drink, &c.

Another hurt in *Lettice*.

Good to procure chastity.

Purslain is cold in the third degree, and moist in the second. The Greeks call it *αδελφον*, the Latines *Portulaca*.

Purslain.

The juice of this herb is good against fluxes, for it greatly stoppeth them. And note that the very herb holden under the tongue, putteth away thirst and dryness.

Good against fluxes and thirst.

Violet in Greek is, in Latine *Viola*, is cold and moist; being cold in the first degree, and moist in the second. The leaves inwardly taken do greatly cool, moisten, and make the body loose or soluble: or outwardly applied, do mitigate all kind of hot inflammations.

Violets.

Good for colicive bodies.

These herbs following are cold and dry.

Madder is called in Greek *ιερή γένεα*, in Latine *Rubia*; and of its temperature the learned are not fully agreed: yet Mr. Gerard saith it is cold and dry. It is good to give the decoction of the roots to bursten and bruised folks; which roots do also plentifully provoke urine: and (as some affirm) the very holding of the root or handling of it, dieth the handlers urine into a perfect red colour, appearing as if he pissed blood. Whereupon saith *Dn Barlas*,

Madder.

Good against bruises.

A strange property in *Madder*.

*O wondrous wood, which touching but the skin,
Imparts his colour to his parts within.*

But note that this must be understood of the root held long in the hand, and freshly gathered: for being kept and transported, it hath not this virtue. *Pliny* attributeth more unto it: for, saith he, the onely sight of this

II h

herb

	herb healeth the Jaundies. But in this last property, let the Reader use his liberty.
<i>Willow-wort.</i>	<i>Willow-wort</i> , or <i>Loose-strife</i> , is an herb cold and dry, whose first vertues were found out by <i>Tysimachus</i> the son of <i>Agathocles</i> , and one of <i>Alexanders</i> Captains, from whom it is called <i>Tysimachium</i> , or <i>Tysimachia</i> . <i>Pliny</i> writeth of this herb that it is of such strange vertue, that when * Oxen at the plough are striving and unruly, let it be put into their yokes, and presently they are appeased and quieted. This herb is contrary to <i>Betony</i> ; which, in these two verses, you may remember,
	<i>As Betony breaks friendships ancient bands,</i> <i>So Willow-wort makes wonted hate shake hands.</i>
<i>Shepherds purse.</i> Good against green wounds, fluxes of blood, &c.	<i>Shepherds purse</i> , or <i>Bursa Pastori</i> , is cold and dry: the leaves bruised are good to heal green bleeding wounds: And also the decoction of it doth stop the lask, the spitting and pissing of blood, and all other bloody fluxes.
<i>Houseek.</i>	<i>Sen-green</i> , or <i>Houseek</i> , is alwayes green, both in summer and winter: Whereupon it is called in Greek <i>αἰζων</i> , which is as much as <i>semper vivens</i> , or <i>alwayes living</i> . It is cold in the third degree, and somewhat drying. The juice thereof taketh away corns from the toes and feet, better than any thing you can easily get: Let them be washed and bathed therewith, and as it were day and night emplastered with the skin of the said <i>Houseek</i> , and you shall find remedy.
Good against corns.	
<i>Sorrell.</i>	<i>Sorrell</i> , or <i>sour Deck</i> , in Latine <i>Acida</i> , in Greek <i>ἤδιον</i> , is cold and dry; being cold in the third degree, and dry in the second.
Good against the lask, and infection.	The seeds of <i>Sorrel</i> drunk in gross red wine, stop the lask and bloody flux. Also if one fasting do chew some of the leaves, and suck down the juice, it marvellously preserveth from infections. <i>Eliots</i> castle of Health.
<i>Plantain.</i>	<i>Plantain</i> , called in Greek <i>ἀγρίον</i> , which is <i>Lambstongue</i> , and in Latine <i>Plantago</i> , is cold and dry in the third degree.

The juice of *Plantain* drunk (like unto *Honſeet*) ſtoppeth the bloody flux, or ſpitting or piſſing of blood. And the leaves ſtamped and made into a Tanſie, with the yolks of Egges, ſtay the inordinate flux of Terms, although it hath continued many years. *Ger. pag. 341.* But on the contrary, the decoction of *Camomill* or *Germander*, made in wine, and drunk, voideth wind, and procureth them to flow. And note that a little bit of the root being eaten, inſtantly ſtayes pains in the head, even to admiration: I mean a little bit of the root of *Plantain*.

To ſtay fluxes.

To provoke fluxes.

And thus alſo I have given you a taſte of ſome cool as well as hot herbs. And in moſt of theſe, as in ſuch other things of the ſame nature, I muſt confeſs, that as I have ſeen a deſcription of the world ſet forth by ſuch whoſe reading was their furtheſt travel; ſo, out of good Authors, and ſkilful Herbaliſts, I have both learned and taught theſe ſecrets. Unto which I have a few more that I intend to adde: And becauſe theſe are the moſt ſtrange, I have reſerved them unto the laſt place.

Theſe herbs which follow, are herbs of more than ordinary properties.

AS fiſt the noble * *Nepenthe*, an herb which being ſteeped and drunk in wine, expelleth ſadneſs.

* *Plin. lib. 29. cap. 2.*

2. Then iſt there the Herb *Hippurin*, or *Hippice*, of which *Pliny* * writeth that it is admirable in ſtenching blood, inſomuch that the cure is performed by the very touch of it; being alſo very good to keep one from hunger and thiſt, while it is kept in the mouth.

* *Lib. 26. cap. 13.*

3. Alſo, there iſt *Nyctilops*, or *Nyctegretum*, an herb which in the night * ſhineth a far off: and, above all other creatures, at the fiſt ſight it ſcareth Geefe.

* *Idem lib. 21. cap. 11.*

4. *Pythagoras* telleth of the herb * *callicia*, which will turn water into ice.

* *Plin. lib. 24. cap. 17.*

5. *Ophiusa* is an herb growing in *Ethiopia*: it is of a wannish colour, dangerous to be looked on: and being drunk, it doth so terrifie the mind with a sight of angry and dreadful serpents, that through the fear of them men have * sometimes killed themselves.

idem lib.

6. *Hemlock* (as some relate out of *Galen*, in his book *De temperamentis*) is meat to storks, and poyson to men.

7. *Sardonias*, or *Crow-foot* (as some write out of *Solennus*) is an herb which moveth laughter.

A bleeding herb.

8. Upon a mountain of *Cyprus* called *Arcadie*, is an herb or plant growing, which if a man cut, there issueth a liquor like warm blood: if with this blood, thus warm, one man should touch another, he would love him affectionately whom he toucheth. Contrariwise, if the blood be cold, the touch will engender hatred. My *Author* calleth this plant, *Flabia*. See *Du Bart*. Summary.

9. Moreover, in the same *Author* I find (as he hath it from one *Ramusius*, in his *Navigations*) that in the Island called *Astralle*, there is an herb found, upon which who-soever lieth down, he is first taken with an heaviness of the head, then with sleeping, and consequently with death.

Lib. 24. cap.

17.

10. Magicians make use of the herb *Anacamferos*, which (as I find in * *Pliny*) by the very touch thereof causeth love to grow between man and man, abolishing all former hatred.

11. The like is reported in a manner of the herb *Sowbread*, which being made into little flat cakes, and taken inwardly, is a good amorous medicine, and will make one in love. *Ger.*

12. Also they report, saith *Dioscorides*, that the herb *Snap-dragon*, or *Calves-snout* being hanged about one, preserveth a man from being bewitched, and maketh him gracious in the sight of the people. *Gerard. ex Dioscor.*

13. Enchanters also make great brags of the herb
Ethiopia

Ethiopia (which, I think, some call by the name of *Moly*.)

14. And of the herb *Achimedis*: the first whereof being cast into rivers, will dry them up; or being applied to any thing lockt or shut, will presently open it: the other being cast into an army in the time of battel, causeth the Soldiers to be in fear, and run away. Thus say some. Neither hath *Pliny* forgotten these two last herbs, but he mentions them with a kind of derision, as in the 26 book and 4 chapter of his Natural History is apparent; * where he wondreth why Enchanters would not make use of them in time of danger and extremity. And for mine own part, this I cannot but say, that it is great pity the secrets of nature should be soiled by infamous Magick, and by the superstitious ignorance of Sorcerers.

It is pity that
natures secrets
should be soiled
by Magick.

15. Unto these, *Apothodorus* hath added the herb *Achyomenon*, which draweth in the leaves when the hand of any one approacheth to touch it.

16. Like unto which is the herb *Sentida*, growing in * *India*: for if any one come near and touch it, or throw sand, or any thing else upon it, presently it becometh as if it were withered, and closeth up the leaves: so continuing as long as the man standeth by: but so soon as he is gone, it openeth fresh and fair: and touching it again, it withereth as before.

* Purchas Pil-
grim. part. 1.
lib. 5. cap. 12.

These you see, are rarities: and being now ready to pass away from them, I should come to speak something of grain: as *Wheat*, *Rice*, *Barley*, *Lintels*, *Oats*, *Peas*, *Beans*, *Rice*, with such other like; and gladly would I do it, but that (methinks) I am called another way: for lo I have discovered the tops of yonder trees; and one by one, I mean to view them.

Here the Au-
thor begin-
neth to speak
of trees.

Vitex, or the chaste tree (which the Greeks call *αἰνός*, and *αἰνός*, because, saith * *Pliny*, certain matrons among the *Athenians*, desirous to live chaste, did lay the leaves of it in their beds under them) is called in the Latine Sa-

agnus castus
* Lib. 24 cap. 9.

lix

Will.

Mr Gerard.

lix marina, or *Salix amerina*, or *Piper agreffe*, or *Agnus castus*. And, as *Pliny* writeth, it is of two kinds; the greater, and the lesser. The first groweth up much like a willow tree; but the other brancheth out, and spreadeth more, having whiter and downier leaves than the former. Our * Countrey man, and an excellent Herbalist, saith, that it groweth up after the manner of a bushy shrub, or hedge tree, having many twiggy branches, very pliant and easie to be bent, like unto the willow: the flowers are of a light blew colour, and very sweet in smell; the leaves long and narrow; and the fruit small and round like unto the grains of Pepper. And note that the flowers grow at the uppermost end of the branches, clustering close together.

Some say, that it is a plant hot and dry in the second degree; others name the third.

It is a singular medicine for such as would live chaste, in what sort soever it be taken, whether in powder, or decoction, or the leaves worn about the body.

Also it driveth away windiness of the stomach, openeth and cureth the stoppings of the liver and spleen, with sundry other such needfull cures. *Dioscorides* saith, a branch of it preserves a Traveller from weariness.

Willow.

From whence
came the first
use of willow
garlands.

Willow is of a much like nature; and therefore it is yet a custom, that he which is deprived of his Love, must wear a willow garland. Also the green boughs with their leaves may well be brought into chambers, and set about the beds of those who are sick of agues; for they do mightily cool the heat of the air; which thing cannot but be a wonderfull refreshing to the sick patient.

Tamarisk.

Good for the
spleen or milt.

Tamarisk is a little tree well known; the decoction of whose branches being drunk in wine, and a little vinegar, is of great virtue against the hardness or stopping of the spleen or milt: for this tree doth by nature so waste the milt, that swine which have been daily fed

out

out of a Vessel made thereof, have been found to have no milt at all. It is good also against the Rickets.

Rose is cold in the first degree, and dry in the second, somewhat binding, especially the white *Rose*. The red is less cold, more dry, &c. As for the damask and musk *Rose*, it is hot, and moist withal. The damask water is sweetest; but the red is whollomest. And of the red *Rose* leaves a conserve may be made, which is good, not onely to cool, but also to comfort the principal parts of the body, viz. the head, heart, stomach, liver, spleen, and reins. Thus you may make it. Take the buds of red *Roses* somewhat before they be ready to spread; cut the red part of the leaves from the white, shake out the yellow seeds: then take the red leaves and beat them very small in a stone mortar with a pebble of wood; and unto every ounce of *Roses* put three ounces of Sugar, by little and little, in the time of the beating, and beat them all together until they be perfectly incorporated: then put it in a glais or gallipot; stop it close, and set it in the sun for a season, and it is made. And know that it will remain in full virtue for a year or two, but then it decayeth.

Myrtle is a little low tree growing in some hot countreys, having small dark leaves, bearing berries which are of a binding nature, and good to stop any issue of blood. This is a tender plant, not able to endure any cold; and (as Authors affirm) it was wont to be worn of the *Roman* Captains garland-wise in triumph; namely then, when they had obtained any victory without slaughter of men. Also in times past this tree was consecrated to *Venus*: and thereupon I find in *Pliny*, that amongst the *Romans* there was an altar belonging to *Venus*, which they call by the name of *Murtia*. The said Author also affirmeth, that before *Pepper* was found out, the *Myrtle* berries served in stead thereof. See *Lin. lib. 15. cap. 29.*

Ebone is a tree growing in *India* and *Ethiopia*, in taste being

Rose.

The temper
and virtue of
Roses.

Conserve of
Roses, what it
is good for.

How to make
the conserve.

Myrtle.

Good against
fluxes.

Myrtle gar-
lands.

Myrtle berries
used for pep-
per.

bone.

A smoke good
for the eyes.

being sharp and biting. If it be burnt, it yields a sweet smell, the smoke whereof is not offensive, but good against many diseases of the eyes: as also, the green wood is so full of sap, and withal so fatty, that it will flame like a candle. Some have said that it bears neither fruit nor leaves; but this is a false opinion, as they have witnessed who have seen the tree, and taken the true picture of it. The outward parts are white, but within it is black. That which groweth in *India*: is not in such estimation as the *Ethiopian Ebony*; for it is spotted with white and yellow.

Sethim.

Sethim is a kind of tree something like a *hite-thorn*; the Timber whereof never rotteth. Of this Tree, *Noah*, according to Gods command, made the Ark; as we read in *Genesis*.

Palm.

Palm, or *Date* trees, are both one. This Tree groweth plentifully in *Egypt*, and other parts of *Africa*; but those which are in *Palestine* and *Syria* are the best; they grow likewise in most places of the East and West Indies.

A token of vi-
ctory.

The branches of this tree were wont to be carried as a token of Victory, because they are of this nature, viz. that they will shoot upward, though oppressed with never so great weight: neither do the leaves of it ever fall. *Elanus* remembreth another property; for (saith he) the report runneth thus, that in *Delus* the Olive tree and the Date tree flourish most fruitfully, which when *Lasona* had touched, she was suddenly disburdened of child-birth, whereas before she could not be delivered. *Elian. lib. 5.* Also they grow by couples, male and female: but the female is onely fruitful; and that not, except growing by the Male.

Lasona deli-
vered by the
Date.

Plane.

The *Plane*-tree, called *Platanus*, is a spreading tree, with broad leaves: in times past it was greatly esteemed in *Italy* for the shadow thereof; insomuch that (as *Pliny* reporteth) they often bedewed it with wine to make it grow. The old *Romans* were wont to banquet much under these trees. And there is, saith *Pliny*, no greater com-

commendation of this true, than that it keepeth away the Sun in Summer, and entertaineth it in Winter.

We read of *Xerxes* King of *Persia*, that he was strangely enamour'd on this tree, having it in such singular admiration that he became a servant to it. For in *Lydia* (as *Elianus* * writeth) when *Xerxes* happened to see a tall and lofty fair *Plane* Tree, he made a whole dayes tarriance by it; and, no necessity constraining him so to do, he pitched his pavilions and tents in the void and empty places round about the same. He also hanged precious jewels of great value upon it, adorning and beautifying the boughs and branches with chains of Gold, with brackets and tablets, with spangles, and such like costly things, yielding thereunto great worship and reverence; appointing also an overseer to keep, preserve, and defend the same from all casualties. This was a strange crochets, and little or nothing the better was the poor Tree for all this love and bravery.

* *Variab. hist. lib. 2.*

Pepper (whereof there are divers sorts) groweth at the root of other trees, climbing upon them like to Ivy, and is in bunches like Grapes.

Pepper.

Ginger groweth like young reeds, with a root like a Lilly: it is plentiful in *Malabar*, or *Malavar*, a Province in *India*, *intra Gangem*. It is hot and dry in the third degree: warms the stomach, helps digestion, heats the joynts, expels wind, is good against the Gout, profitable for Old Men, and is good to clear the sight.

Ginger.

Cinnamon is the inner bark of a tree as big as an Olive; with leaves like Bay leaves, and Fruit like an Olive; the drying of the bark maketh it roll together. Within three years the Tree yieldeth another bark, as before. They of *Ormuz* call it *Darchini*, that is, wood of *China*; and selling it at *Alexandria*, they call it *Cinnamomum*, which is, *quasi Amomum ex Sina delatum*. *Purch. ex Garcin ab hortis*. A dram of this newly beaten into powder, and taken in white Wine, is excellent for Women in labour.

Cinnamon.

Nutmeg
and *Mace*.

The *Nutmeg-tree* is like a Peach or Pear-tree, and groweth most in *Banda* an Island in *Asia*, and in *Java*. The fruit is like a Peach, the inner part whereof is the *Nutmeg*, which is covered and interlaced with the *Mace*. For when the fruit is ripe, the first and outermost part openeth, as it is with our Walnuts; then the *Mace* flourisheth in a fair and red colour, which in the ripening becometh yellow; it is hot in the third degree, strengthens the Stomach, and helps concoction.

Cloves.

Cloves, grow in the *Moluccos* on trees like bay-trees, yielding blossoms, first white, then green, afterwards red, then hard; and this hard thing is the *Clove*. When they be green they yield the pleasantest smell in the World. And (as is reported) being ripe they are of such an extraordinary heat and dryness, that in two dayes they will suck out and dry up such vessels of water, as shall happen to stand in the same room where they are. These Spices and Drugs, with many other, are the fruits of *India*.

Cypress.

The *Cypress* is a Tree growing on dry Mountains, and most commonly in hot Countreys. It is very tall and the Timber thereof is yellowish and of a pleasant smell, especially being set near to the fire; and of such durable nature, that it doth neither rot nor wax old, nor yet cleaveth or chappeth it self. See *Plin. lib. 16. cap. 33. & 42*. The Wood of it laid among Cloaths secures them from Moths.

Pine.

The *Pine* is a Tree of the same nature, not subject to Worms or rottenness, and therefore much used, where it groweth, to make Ships. The leaves are hard-pointed, sharp and narrow, continuing green all the Year; and the shadow thereof * will not suffer any plant to grow under it.

* *Plin. lib. 17. cap. 12.*

Cedar.

Cedar is a tall great Tree which groweth in *Africa*, and *Syria*; many of them upon mount *Zibanus*. They be straight and upright like the Firre-tree: their leaves are small, thick, and of a sweet smell. The Tree hath
Fruit

Fruit on it all times of the Year, which Fruit is like to that of the *Firre* and *Pine-tree*, but greater and harder : and at this day (as one affirme) there are found upon Mount *Libanus*, *Cedars* planted by King *Solomon* : the truth of which I will not stand to justify.

Terebinth is a Tree from whence Turpentine issueth

Picea is a Tree that droppeth Pitch ; it groweth in *Greece*, *Italy*, *France*, *Germany*, and all the cold Regions even unto *Russia*. It remaineth alwayes green like unto the *Pine*, and, by some, is supposed to be a wild kind of *Pine*, especially seeing the *Pine* affordeth Rosin, Pitch, and Tar. Yet some attribute Pitch to the great *Cedar*, Rosin to the wild *Pines* chiefly, and Tar to the *Pine* called the *Torch Pine*.

There is a tree in *India*, called the Indian *Cocus*, or *Cocus*, being the most strange and profitable tree in the World, of which in the Islands of *Maldiva* they make and furnish whole Ships : so that (save the men themselves, * saith one) there is nothing of the Ship or in the Ship, neither Tackling, Merchandise, or ought else, but what this tree yieldeth. It groweth high and slender, the Wood is of a spongy substance, easie to be sewed, when they make Vessels thereof, with cords made of *Cocus*. It hath a continual succession of Fruits, and is never without some : they grow like a kind of nut, which is of a very large size, having two kind of husks, as our Walnuts ; the uppermost whereof is hairy like Hemp, and of this they make cordage ; and of the next they make drinking-Cups. When the Fruit within these shells is almost ripe, it is full of Water, which, as it ripeneth, changeth into a white harder substance : at the first this liquor is sweet, but with the ripening groweth sowre. The tree affords a very medicinable juice ; and, if it stand one hour in the Sun, it is good vinegar ; but distilled, it may be used in stead of wine or *Aquavita*. There be wayes also to make sugar of it, and of the meat in the nut dried they make Oyl : Of

Terebinth.
Picea.

Cocus.

* M. Purchas
pilgrim. part. I.
lib. 5. cap. 12.

the pith or heart of the tree they make Paper: of the leaves they make coverings for their Houses, Tents, Mats, and the like. Nay, their Apparel, Firing, and other necessary commodities, they gather from this Tree. Thus some. Or, according to others, it is thus described. In the Isle of *Zebus* there is a fruit which they call *Cocos*, formed like a *Melon*, but more long than thick: It is inclosed with divers little skins, so strong and good as those that environ a Date stone. The Islanders make thread of the skins, as strong and good as that which is of Hemp. The fruit hath a rind like a dry Gourd, but far more hard; which, being burned and beaten to powder, serveth for Medicine. The inward Nut is like unto butter, being both as white, and as soft, and besides that, very savoury and cordial. They make use of this fruit also in divers other things. For if they would have Oyl, they turn and tosse it up and down divers times: then they let it settle some few dayes, at which time the meat will be converted into a liquor like Oyl, very sweet and wholesome, wherewith they oftentimes anoint themselves. If they put it into Water, the kernel is converted into sugar; if they leave it in the Sun, it is turned into vinegar. Towards the bottom of the tree they use to make a hole, and gather diligently into a great cane the liquor that distilleth, which amongst them is of as much esteem as the best Wine in these parts: for it is a very pleasant and wholesome drink.

*Arbre de
rais.*

There is also among the *Indians* a tree called *Arbre de rais*, or the tree of roots, called also the *Indian fig-tree*, and by some affirmed (with more confidence than reason, saith one) to be the Tree of *Adams* transgression. It groweth out of the ground, as other Trees, and yieldeth many boughs, which yield certain threads of the colour of Gold, which growing downwards to the Earth do there take root again, making as it were new Trees, or a Wood of Trees, covering sometimes the best part of a mile.

There

There is also another Tree which some call the *Indian mourner*, or *Arbore triste*, the sad and sorrowful tree. It hath this property, that in the day time and at Sun-setting you shall not see a flower on it; but within half an hour after, it is full of flowers, which at the Sun-rising fall off, the leaves shutting themselves from the Suns presence, and the Tree seeming as if it were dead. The *Indians* have a fable of one *Parisafico*, who had a Daughter, with whom the Sun was in love; but lightly forsaking her, he grew amorous of another: whereupon this damosel slew her self, and of the ashes of her burned carcase came this Tree. A pretty fiction this; *Ovid* himself hath not a better.

Arbore triste

In the Island of *Hierro* (being one of the seven Islands of the *Canaries*) is a Tree which distilleth water incessantly from the leaves thereof, in so great abundance, that not only it sufficeth those of the Island (for there is no other water in the Island) but also might furnish the necessary uses of a far greater number of people. This strange tree is alwayes covered with a litle mist, which vanisheth by degrees, according as the Sun sheweth himself.

A weeping tree.

When the Spaniards (saith my Author) took upon them to conquer this Isle, they found themselves almost discomfited, because they saw neither Fountains, Springs, nor Rivers; and inquiring of the Islanders where they had their water, they answered that they used none but Rain-water, and in the mean time kept their Trees covered, hoping by this subtilty to drive the Spaniards out of the Isle again. But it was not long before one of their Women, entertained by a Spaniard, discovered the tree with the properties of it; which he at the first held for a fable, until his own witness saw it was true; whereupon he was almost ravished with the miracle: but the Woman was put to death by the Islanders, for her treachery.

In the North parts of *Scotland*, and in the places adjacent, called *Orchades*, are certain trees found, whereon there

Barnacle tree.

*Barnacle
Tree.*

there groweth a certain kind of shell-fish, of a white colour, but somewhat tending to a russet; wherein are contained little living creatures: For in time of maturity the shells do open, and out of them by little and little grow those living Creatures; which falling into the water when they drop out of their shells, do become fowls, such as we call *Barnacles*, or *Brant Geese*: but the other that fall upon the land, perish and come to nothing. Mr. Gerard affirmeth that he hath seen as much in *Lancashire*, in a small Island which is called the *Pile of Foulders* for there be certain boughs of old trees, and other such like rubbish cast up by the Sea, whereon hangeth a certain spume or froth, which in time breedeth unto a shell: out of which by degrees cometh forth a creature in shape like a bird; sending out first a string or lace as it were, of silk finely woven, and of a whitish colour; then follow the legs, and afterwards more and more, till at the last it hangeth by the bill: soon after it cometh to maturity and falleth into the Sea, where it gathereth feathers, and groweth to a fowl bigger than a *Mallard*, and something less than a *Goose*, being somewhat coloured like to our Mag-pies. This Mr. Gerard testifieth to be true upon his own knowledge; as in his Herbal is apparant.

*The Bay
Tree.*

LAVINIA is named in Greek *Δάφνη*, in English a Bay tree, the leaves whereof are always green. This tree in *England* is no great tree, but thriveth better, and is lustier than in *Germany*. The Poets write that it took the name from *Daphne* the daughter of *Ladon* and the Earth. This *Daphne* (as they tell us) the God *Apollo* loved, and was much enamoured on her, insomuch that he followed her every where so long, till at the last he took hold of her, and held her fast. But she not otherwise able to avoid him, suddenly called for succour of her Mother the Earth, who presently opened and swallowed in this her Daughter *Daphne*, and in the stead of her brought forth a fair Bay tree. When *Apollo* saw this

this change, he was much astonied, and named the tree *Daphne*, after the name of his beloved *Daphne*, and took a branch thereof and twisted a Garland or Cap, and set it on his own head : from which fiction it came to pass, not only that the tree it self was by the Heathen dedicated to *Apollo*, but also that such as excel in Poetry and Wisdom, are crowned with Bayes. Moreover the Heathen tell us, that the Bay tree withstandeth all evil Spirits and Inchantments : so that in the house where is but one branch thereof, no inchantments, lightnings, nor the falling evil can hurt any. They say also that the Bay or Laurel bringeth health, whereupon there was given a branch of Bay to the *Roman* Senators every New Years day.

But leaving these superstitious toys, and this fiction, let us look upon it as a Tree planted first (as all other Trees were) by God, the leaves and fruit whereof are hot and dry in the second degree, especially the fruit, the which is hotter than the leaves : but the bark of the root is hot and dry in the third degree. But as I said, the leaves are hot and dry in the second degree ; they resist drunkenness, they gently bind and help diseases in the bladder, help the stinging of Bees and Wasps, mitigate the pain of the stomach, dry and heal, open obstructions of the Liver and spleen, resist the Pestilence.

The virtues of
the Bay-tree.

Almond Trees grow much in high *Germany*, and in *Italy* in great plenty : some there be in *England*, but I could never hear of any great store of fruit on them. It is a tree that in the growth and leaves is much like to the Peach Tree, but it waxeth bigger and stronger, and is of a longer continuance.

The Almond
Tree.

Almonds be hot and moist in the first degree. They do extenuate and cleanse without binding ; wherefore they purge the breast and lungs, and be good to be eaten with figs, of such as be short winded. The bitter Almonds

taken

taken with a little sweet wine (as *Muscadel* or *Bastard*) provoke Urine, and do cure the hardness of the same, or painfulness in making water, and be good therefore for them who be troubled with gravel or the stone. The oyle of bitter *Almonds* is hotter by one degree than the oyle of sweet *Almonds*, and is most fit for the Ears that be stopped with gross wind, for hardness of hearing, and for the noise in the ears that cometh of cold: It killeth also the worms in the ears; and (as experience sheweth) is more convenient for the ears than other oyles be.

Of sweet *Almonds* is made *Almond* milk, excellent good to be taken in hot diseases: Also Cawdles of *Almonds*, both comfortable to the principal parts of the body, and procuring sleep: Also *Almond* Butter, very delicate and good for a stuffed breast. This kind of butter is made of *Almonds*, with Sugar and Rose-water; which being well made, and eaten with *Violets* (especially in *Kent*, when *Violets* be most fragrant) is very wholesome and commodious for Students: for it rejoyceth the heart, it comforteth the brain, and qualifieth the heat of the liver.

The Chestnut Tree.

Chestnuts be hot and dry in the first degree, and are of an astringent, or binding nature. The Trees on which they grow be in some gardens in *England*, but in *Kent* they grow abroad in the fields very plentifully. This tree delighteth in shadowy places, and mountains whose situation is towards the North. The Nuts that grow on it are ripe about the end of *September*, and do last all the winter. Some use to make an Electuary with the meal of Chestnuts and Honey, very good against the Cough and spitting of blood.

Hazil Nuts.

Hazil Nuts be hot and dry in the first degree. They be hard of digestion, they fill the stomach and belly with wind, they encline one to vomit, and (as experience proveth) they stuff the breast full of phlegme, and cause a Cough; especially after they be dry; for the

the dry are worse than the new and moist, more oyle, turn soon to choler, and engender head-ach: but eaten with good raisons of the Sun, their ill property is a little qualified.

Filberts are of a much like nature, saying that they are more pleasant in eating, longer in form, thinner in shell, and sooner ripe. Howbeit a man may make a good Medicine of nutshells for a lask; namely thus: Take Nutshells and beat them into powder, of which put two drams into Red Wine and drink it. Some hold that if *Hast* Nutshells be burnt to ashes, and laid to the hinder part of the head of a Child having Grey eyes, they will cause the said eyes to become black.

Filberts.

The *Walnut Tree* is high and great, parted into many arms and branches, the which doth spread abroad in length and breadth. It delighteth much to grow upon Mountains and in dry places; the Nuts that it beareth be hot and dry in the second degree after they be withered, but not when new gathered. If the pills be taken off, they are thought to be good for the stomach and somewhat loosing to the belly, and mixt with Sugar, do nourish temperately. They be also good against poyson, and were used by King *Mithridates* as a special Antidote: the composition whereof was two dry Walnuts, twenty leaves of *Rue*, two Figs, and a grain of Salt. This Medicine he used often, taking it in the Mornings with a little Wine, and had so accustomed his body unto it, that when he thought to dispatch himself with poyson, rather than fall into the power of the *Romans*, he could not. Moreover the distilled water of the green outward husks (if they be distilled before they be rotten) is excellent good against the Pestilence.

The *Walnut tree.*

The *Box Tree* (called in Greek *ξύλον*, and in Latine *Buxus*) is well enough known, of whose Wood divers kinds of works and instruments be made. The leaves be hot and dry, astringent, and of no known use in Physick, neither Tree nor leaves. Howbeit some Learned Wri-

The *Box tree.*

ters do affirm, that the Lye in which Boxen leaves have been well steeped, maketh the hair yellow if the head be often washed therewithal. Know also that it is not good to plant this Tree where Bees are kept, for the honey which they gather from the flowers of Box will have a bitterish taste.

Misselto.

Missel, or *Misselto*, groweth not upon the ground, but upon Trees: and is oftentimes found growing upon Apple-trees, Pear-trees, Birch, Wythies, and some other Trees: but the best and of greatest estimation, is that which groweth upon the Oak. The leaves and Fruit of this Plant are hot and dry, and of the Berries is made that which we call by the name of Birdlime: the manner thus; bruise first the Berries, and then wash them, and afterward seeth them in water. Or as *Pliny* teacheth, gather the Berries in Harvest before the rain cometh on them; after that they must be dried and then beaten, and let lie rotting in waters by the space of twelve dayes; then bruise them in the water until the skins be all gone, and the substance of them wax tough. It is said that this plant doth grow no other wayes but by the seeds, in such places where Birds have devoured the Fruit, and voided them out again in their Excrements upon some Tree; from whence arose that Proverb. *Turdus sibi cacat malum*. For the Berries being well prepared in her body, and voided out again in her Excrements, grow into a bush, the bush bringeth forth berries, and of the berries the Fowler maketh Birdlime, wherewith after he taketh the Thrush: And thus, *Turdus sibi cacat malum*.

The Honey-suckle.

The *Woodbindor Honey-suckle* is well known; of which some write that the juice of the leaves drank of a Man by the space of 37 days together, will make him that he shall never get any more children.

The Uge-tree.

The Birds that eat the berries of the Italian *Uge* tree, are made black; or as *Dioscorides* saith, they either cast their Feathers or die.

And

And thus (gentle Reader) I would here end, not only this Chapter and Section, but also the first part of my book, were it not that I have a desire to speak a word or two of things growing under ground, and within the Earth: which, as briefly as I can, shall be handled in the following Appendix.

An Appendix to the two former Sections, discoursing somewhat concerning Metals, and such like things as are under ground.

IN the second Dayes work I had occasion to speak of Fiery, Aiery, and Watery Metcours, all which by the Philosophers are named bodies imperfectly mixt, being but a little durable. And now, being to speak of things under ground, I am come to bodies more perfectly mixt, and of a longer continuance, because they consist of a more solid and constant concretion of Elements.

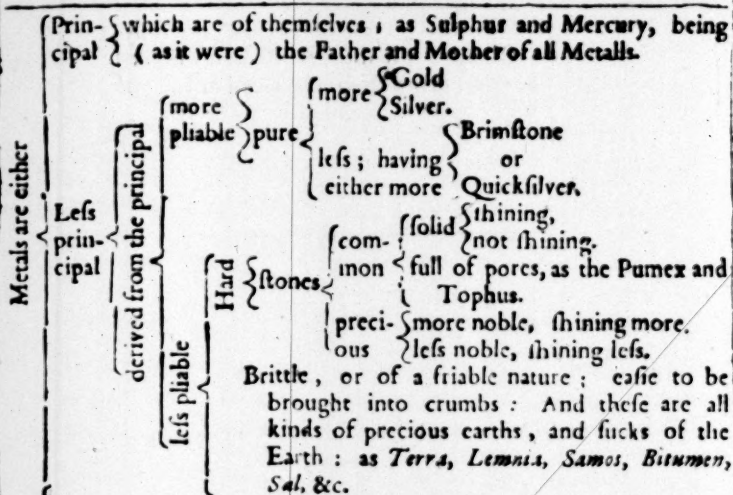
Their names in general, are either *Mineralia*, Minerals: *Fossilia*, or *Metalla*.

They are *Mineralia*, because they are generated in Mines; that is, in the veins, pores, and bowels of the Earth.

They are *Fossilia*, from *Fodio*, to dig, because they are digged out of the Earth.

And they are *Metalla*, *Metals*, from the Greek word *μεταλλειν*, which is to search, or find out; because, with much labour and cost they are sought out of the veins and bowels of the Earth.

That name which I insist upon, is this last: And that the kinds of Metals may the better be remembered, this short table would be observed.



Of these kinds I purpose to speak a word or two, which shall be as it were to explain the table to such as know it not.

The first, or principal metals, are *Sulphur* and *Mercury*: These are of themselves, because other Metals do not help to make them, but they help to make other Metals.

Brimstone.

Sulphur or *Brimstone*, is said by some to be the fat of the Earth with fiery heat decocted unto his hardness; which is the cause that it so speedily is enflamed, and burneth even in water.

Or thus, *sulphur* is a metallick substance or matter, consisting of a more subtil Exhalation, fat and unctuous shut up within the veins of the Earth. It will burn sooner than the fat of Beasts: for although it be fatter than *Brimstone*, yet it is far colder.

Mercury or *Quick-silver* is a slimy water, mixt with a pure white Earth; which Metal, for the matter where-

of

of it doth consist, is thin, cold and heavy.

Or thus, *Quick-silver* is a metallick matter, consisting of a watery vapour, more subtil than ordinary, which is mixed with Earth to conglutinate or knit it together, and, by the heat of *Sulphur*, it is digested into what it is. It pierceth metals, because of the extream thinness; which, together with the heat of it, makes it be in continual motion; and the motion, by a Metaphor, causeth it to be called *Quick-silver*. Moreover, it is also called *Mercury*, because as Mercury is joyned to all the Planets, so this to all metals; or as Mercury is moved many wayes, so this is apt for any motion.

Quick-silver.

The less principal Metals are derived from these first. I call them less principal, because they are not of themselves, but produced by the help of the other two.

Metals derived from the two first.

These I divide into two sorts; the pliable, and the less pliable.

Pliable Metals are pure; and that, either more or less. The more pure, are *Gold* and *Silver*.

Pliable Metals of the purest kind.

Gold is the only purest of all Metals, and is composed of a most pure red *Sulphur*, and of the like *Quick-silver*; they are red, but not burning. This metal is only perfect; all other be corruptible. It is perfect, because it is concocted with sufficient heat, and mixture of *Sulphur*; whereas all other Metals, either are not so well concocted, or else they have not the due quantity of Brimstone; and (as it is affirmed by the Alchymists) because nature in all her works seeketh the best end, the intendeth of all metals to make *Gold*; but being hindered, either for want of good mixture, or good concoction, she bringeth forth other metals; although not so precious, yet in their several uses, every way as profitable, if not more; for it is scarce a question * whether there be more use to the necessity of Mans life, in Iron and Lead, than is in *Gold* and *Silver*. *Gold* never rusteth, both because of the pureness of its Parents, free from poisonous infection; and also because it is so solidly composed that

Gold.

* Moors Univ. p. 11.

no

no air (which causeth all things to corrupt) can be received into it.

This perfection, together with the rareness, and beauty of it have caused fond Mortals to doat so much upon it as they do. Nay, will not one pound at once of this go further than ten, either ounces or pounds of honesty? The Poets saying agreeth to it.

*Antea nunc vere sunt secunda, plurimus auro
venit bonos.*

This is the Golden Age, not that of old;

For now all honour's to be bought with Gold.

And hereupon I think it is, that most Men dispraise this metal, and yet but few who would not have it.

*Diversi hominum videam cum sparsa per artes
Ingenia, est cunctis ars tamen una virus.*

Omnibus idem animus gratos sibi querere nummos:

Omnis in ex hanc stas undique poscit opes.

When I behold the Wits of Men inclin'd

To divers Arts, I all of them do find

In this one art to meet; they shun no pain

With'd Wealth to heap up, and augment their gain.

Nay, they are not common fetches and plots, but strange and bloody damned practices which are often used to get and obtain the Riches of the World. Which Ovid could discern a long while since; and therefore he saith,

Effodiantur opes irritamenta malorum:

Jamque nocens ferrum, ferrique nocentius aurum.

Riches (those fond enticements unto ill)

Are digged up; and Iron which doth kill.

But Gold it is which doth more harm to men

Than Iron blades, though steel'd, though sharp,
though keen.

Or, as another saith,

Aurum, destructor vita, princepsque malorum,

O quam difficiles necis ubique dolos!

O utinam natum nunquam mortalibus esses,

Dulcia suppeditas que nocumenta viris!

Gold,

*Metamorph.
lib. 1.*

Gold, Lifes destroyer, and of mischiefs chief,
 Oh what strait wiles dost thou knit, past belief!
 Would thou hadst ne're been born to mortal wights,
 Such harm to Men rests in thy false delights.

These are the complaints, But it is neither in Gold nor
 Iron, or the like, that these evils rest; the causes of ill
 ought rather to be imputed to the Devil and wicked Men.
 For true it is,

*All goods are good to good Men that well use them,
 But they are bad to fools who do abuse them.*

And thereupon saith Du Bartas,

*I know to man the Earth seems (altogether)
 No more a mother, but a step-dame rather;
 Because (alas) unto our loss she bears
 Blood, shedding Steel, and Gold, the ground of cares:
 As if these metals, and not mans amiss,
 Had made sin mount unto the height it is:
 To pick a lock, to take his Neighbours purse;
 To break a house, or to do something worse;
 To cut his Parents throat, to kill his Prince,
 To spoil his Country, murder innocence.
 For, as a cask, through want of use grown rusty,
 Makes with his stink the best Greek malmsey musty.
 So Gods best gifts, usurpt by wicked ones,
 To poison turn through their contagions.*

What pains do not men take to win gold; every man
 hath one way or other to hunt after it: but the Alchymist,
 despising all other ways, as slow, unnatural, and unpro-
 fitable, laboureth, either to help nature in her work, as
 of imperfect metals to make perfect, or else to force na-
 ture to his purpose, by his quintessences and Elixirs; so
 that what by purging, what by concocting, what by mix-
 ing of Sulphur and Quicksilver, and much other like stuff,
 at length he turneth the wrong side of his gown outward,
 all the teeth out of his head, and his body from health to
 a palsey, and then he is a Philosopher, and so he must, nay,
 will be called.

It

It is said of Gold, that it waxeth cold towards day-light; insomuch that they who wear rings of it, may perceive when the day is ready to dawn.

Silver.

Silver is the most pure metal next unto Gold; it hath an indifferent good concoction, but it wanteth sufficient heat in the mixture, and thereupon looketh pale. It is a metal begotten of pure white Mercury, and of clear white Brimstone or Sulphur.

Pliable metals
less pure.

The less pure pliable metals, consist some of them of more Brimstone; some, of more Quick-silver: neither are any of these two so pure, as those in the mixture of Gold and Silver.

*Brass and
Copper.*

Brass is an impure metal, consisting most of a red and thick Sulphur, and of a little Quick-silver something impure; that which cometh from *Cyprus* is called *Copper*, and is the purest, as being of best digestion, and nearest unto Gold; * *Brass* *Latten*, and such like, being no other than divers kinds of *Copper*. In ancient time, this metal was in greater esteem than Iron; for they did not only make their armour of it, but their bucklers also and their lances; because they would not be worn, either with age or use.

* Some say
Brass is not nat-
urally, but ar-
tificially made.

Copperas.

Copperas is a mineral of a near nature unto Brass or Copper: it is said by some to be mixed of humours strained by drops into small holes. Add perhaps it is nothing else but the more raw and impure substance of that which is the matter of Copper, with less Quick-silver in it, and that also of a baser quality. It is hot and dry in the fourth degree, vehemently binding, being of great force to season and preserve raw flesh, (as some affirm) and is also good to beget sound flesh in festered sores, and to stench blood. It is of a green, yellow, and a sky colour; but the best hath white spots in it. See more afterwards in *Vitriol*.

Iron.

Iron is a common metal, necessary for the use of mans Life, engendred of a most impure Quick-silver mixed with a thick Sulphur impure and adust. Or thus; It is

an

an impure metal consisting of much crude, earthy, adust Sulphur, and a modicum of filthy and bad Mercury. This (saith the Philosopher) although it be hard, yet by daily use it is worn and wasted: the reason being in regard that it hath in it least of Mercury, and most of an earthy Sulphur. The quenching it in water makes it harder and harder; but if it be quenched in the juice of Bean-shells or Mallows, it becometh soft: and so also doth the often heating it and cooling it without quenching. * *Pliny* calleth it *optimum pessimumq. vita instrumentum*, the best and worst instrument of life.

How to soften Iron.

* *Lib. 14. c. 14.*

Steel is a kind of Iron, but the purest and the hardest; or Iron refined. Natural steel, which we call *Chalybs*, in times past was gotten out of a place in *Thracia*, where the People called *Chalybes* inhabited: their use was to go naked, and dig this Metal out of the earth.

Steel.

Metals consisting most of Mercury, are these; *Lead*, and *Tin*.

Lead is a raw and indigested metal, but of better digestion than commixion; for it is mixed with a gross earthy substance, which causeth it to be in colour so black, and so ready to foul. It is begotten of much unpure, thick, and drossie Mercury; and by refining is made whiter. The kinds of this are varied by reason of the heat by which it is decocted; and thereupon it comes to pass that we have one sort which we call *Black-lead*; another far whiter and clearer, as being better concocted, and more purely composed. It is of a cold and binding nature; and if it lie in the wet moisture will increase the weight. *England* hath store of it.

Lead.

Tin, whereof great plenty also groweth in the West parts of *England*, in beauty and colour cometh nearest unto Silver; and of Silver wanteth nothing but solidity and hardness. Some think that it is composed of Silver and Lead; but the more common opinion is, that the greatest part of it is Mercury, white without, and red within, having a portion also of Brimstone or

Tin.

Sulphur not well mixed, being as it were Lead whited with Silver; for it is a raw and undigested metal, very porous and uncompact, which causeth it to crash when it is either broken or bitten. And thus far of metals pliable.

Metals less pliable which are hard.

The less pliable (as I shewed in the Table) are either hard, or brittle; and cannot be easily hammered, wrought or melted to a desired form.

Stones.

The hard ones, are all kind of stones. And of stones, together with bodies friable or brittle, it is doubted whether they be in the number of Metals or no; because there is great difference in the matter of their composition, &c.

What stones are, and whereof they consist.

To which it is answered, that although they be not in the number of such kind of metals as are pliable, and will melt; nor yet abound with that matter of mixture which they do; nevertheless they may bear the name of metals; according to that general name specified in the derivation of the word *Metalla*. And in that regard I made a difference of metals, and drew them out in the former table. Wherefore I proceed; and following them who derive stones after this manner. I say that stones are bodies perfectly mixt, without life, hard, of a dry and an earthy exhalation, mixed with a certain unctuousity; and by the durance of time, together with the force of heat and cold, and a mineral virtue, conglutinated or knit together. Or thus; they be engendred of a watery moisture, and fat earth mixed hard together. By which it appeareth that the matter of stones is a watery humour, and a thick unctuous earth: which is not so to be understood as if the other two Elements were separated from their mixture; but because they have not such precedency as the former. And for their efficient cause, besides the mineral virtue, it is said to be heat and cold. Heat bringeth the slow humid unctuous matter through the thin parts of the earth (as the Philosophers affirm) and cold condenseth it, and makes it thick.

thick. They live not with a vegetative life, as plants and Trees which have their nourishment from within; but their augmentation proceeds from an outward accretion by the apposition of particulars adhering to them, when they lie in place convenient; and, in time, their virtues may be abated, by being long out of their right *ubi*; in which regard some supposed that they had life, and died.

Stones live not a vegetative life.

The common stones are of a more impure and gross matter than the other. Some whereof are solid; some more full of pores.

Common stones.

In the solid, the parts are more continued, and better compacted: yet so, as some have a kind of shining in them; others are dark and dull. The shining solid stones are chiefly all kind of Marbles: of which I find three sorts. 1. *Alabaſter*; which is of colour very clear and white. The Greeks call it *ἀλαβαστήριον*, and about *Thebes* in *Egypt* it is especially found; there being the greatest plenty of it. 2. *Ophites*, which is a kind of Marble having spots like a Serpent. 3. *Porphyrites*, which is the red marble, mixed or interlaced with white spots. The not shining solid stones are these, and the like: 1. The *Flint*. 2. The *Marchasite*, or that whereof they make Mill-stones; which being struck with Steel, procures fire, like to the *Flint*. 3. *Cos*, which is of power to sharpen edge-tools; whereof we commonly call it a whetstone. 4. *Corticula*, or *Lydius Lapis*; which is of force to try the truth in Metals; we therefore call it a touch-stone. 5. *Smiris*, which is an hard stone wherewith Glaziers cut their glass: some call this an *Emery*. 6. Those which we name wheaten stones, or any kind of rocky stone; or such as may be comprehended under the word *Saxum*.

Alabaſter.

Ophites.
Porphyrites.

Flint.
Marchasite.
Cos.

Corticula.
Smiris.

Saxum.

Common stones less solid, are the *Pumex* and *Tophus*. 1. The *Pumex* is of a spongy nature, and is apt to swim by reason of the light matter whereof it consisteth. 2. The *Tophus* is a sand or gravel stone, that may easily be rubbed to crumbs.

Pumex.
Tophus.

Precious
stones.

* Vide Plin.
lib. 27.
Adamant.

* Some say that
the blood of a
Deer or Lyon
will also mol-
lifie it, and
make it fit to
be broken.
Melted Lead
also mixed
therewith in a
burning fur-
nace, doth the
like.

* Some say,
that it hath
power to see
vaniance be-
tween men.

* Lib. 37. c. 4.

Saphire.

But come now to precious stones; and amongst them we have the noble, and the less noble; both which sorts are begotten of a more subtil and thin matter than common stones, and fostered with a more singular influence of the heavens. My task were (in a manner) endless to reckon * all sorts; yet some must be remembered.

The most noble precious stones, are, 1. The *Adamant* or *Diamond*, the most precious of all stones, and the hardest; insomuch as it cutteth glass, and yieldeth not either to stroke of hammer or fire; notwithstanding it is softened with * Goats blood being warm, soon after the hath eaten Parsley or drunken Wine.

Pliny maketh 6 kinds of *Adamant*: The 1. is *Adamant Indicus*, being near akin to Crystal; for in colour and clearness it is much like it; and in quantity it is in bigness as a Filbert or Hasel nut. The 2. is *Adamant Arabicus*, like to the other, excepting that is something less. The 3. is called *Cenchros*, answering in bigness to the grain of Millet. The 4. kind is *Adamant Macedonicus*; and this is like to the seed of a Cucumber. The 5. is *Adamant Cypricus*; this is found in *Cyprus*, and tendeth somewhat to the colour of brass. The 6. is called the * *Siderite*; which, although it be heavier than the other, yet it is of less vertue and esteem; the colour whereof is like to the colour of Iron: And this, as also that of *Cyprus*, are termed by * *Pliny*, degenerate kinds; because they will be broken by the hammer, or otherwise with blows; and also may be cut or rased by other Adamants. All these kinds, the two first onely excepted, are said to have their place of generation amongst the Gold, and in Golden Mines

2. The *Saphire* is a very clear gem, very hard, and of a sky colour, growing in the East, and specially in *India*; the best sort hath in it as it were cloves enclining to a certain redness. This stone is said to be of a cold nature; and being drunk it preserveth chastity, corroborateth the heart, helpeth against the stinging of serpents, poyson and pestilence.

3. The

3 The * *smaradge* is of a green transparent colour, making the air green near about it. The quality of this stone, in Physick, is much like to the former, or of more virtue; for it is said to defend the wearer from the falling sickness. And so greatly doth it favour chastity, that if it be worn whilst the Man and the Woman accompany themselves together, it breaketh in the very act.

Smaradge.
* *Pliny* maketh
12 sorts of this
stone, lib. 37.
cap. 5.

4 The *Hyacinth* is of a waterish colour, or rather something blew like a violet. It is exceeding hard, and cloudy in the dark, but pure and clear by day: like unto a false flattering friend, whose blithe looks are openly seen in time of prosperity; but gone when the cloudy night of dark adversity beginneth to approach: For where true friends are knit in love, there sorrows are shared equally; and best are they perceived in a doubtful matter.

Hyacinth.
What false
friends are like
unto.

Si fueris felix, multos numerabis amicos;

Tempora si fuerint nubila, solus eris.

Whilst thou art happy, many friends thou hast,

But cloudy times those many friends do waste.

Moreover, this stone is of a cold quality, moderating the spirits of the heart and of the other parts; also it causeth mirth, and being worn obtaineth favour as some report.

5 The *Amethyst* is a gem or precious stone, which in colour resembleth a deep claret wine; and (as * some suppose) it hath power to resist drunkenness.

Amethyst.
* *Aristotle* af-
firmeth no-
less.
Carbuncle.

6 The *Carbuncle* (of which *Pliny* writeth in his 37. book and 7. chapter) is a gem shining with a light like fire, representing a flame. Some say it is the noblest, and hath most virtues of any precious stone.

7. The *Calcedon* is of near nature to the *Carbuncle*; it is of a purple colour, and shineth like a star; it is said to expel sadness and fear, by purging and clearing the spirits: it also hindreth ill and fearful visions or dreams in a mans sleep.

Calcedon.

8. The *Ruby* is a red gem, shining in dark like a spark of fire; it cleareth the sight, and expelleth sad and fearful dreams.

Ruby.

9. The

Chrysolite.

9. The *Chrysolite* is a stone of a Golden colour, and shining, but brightest in the Morning. It is good against melancholly; and fire is much hurtful unto it.

Astarete.

10. The *Astarete* is a clear shining Chrystalline stone, having in the midst the image of a full Moon: or being turned about, the Sun or the Moon may be seen shining within it. *Plin. lib. 37. cap. 9.*

Selenite.

A stone which follows the course of the Moon.

11. The *Selenite* is a transparent gem like glass: it hath a kind of spot in it which bears the image of the Moon, increasing and decreasing as the Moon; and therefore it is called the *Moon-stone*, *Idem cap. 10.* It is of a white, black, and yellow colour: and the scrapings of it heal the falling sickness.

Sardonyx.

The Indians therefore used to hang it about their necks.

12. The *Sardonyx* is a clear gem, in colour representing the nail of a mans hand: it preserveth chastness, and healeth Ulcers about the nails. *Albertus Magnus* witnesseth that if it be hanged about the neck, it doth greatly corroborate the strength of the body.

Achates.

13. *Achates* is a stone of divers colours, inasmuch that the colours of other gems are not sufficient for it: sometime it is black with white veins and yellow: sometime it is as it were sprinkled with blood; and (like a *Proreus*) is of so many colours that one would scarce believe it were one and the same stone. Eagles (as is said) lay it in their nests to preserve their young from poyson. And *Pyrrhus*, King of *Epirus*, had one of these gems in a ring, in which were the nine Muses to be seen, and *Apollo* with his harp; not engraven by art (saith **Pliny*) sed sponte natura ita discurrentibus maculis, but on natures own accord the spots being so disposed. *Pliny* also sheweth the divers kinds of this stone in the 10 chapter of his 37 book, affirming that it is good against poyson, and stinging of Scorpions; and is supposed to procure eloquence, and make men wise and fair spoken. See more in *Scal. Exerc.* 117.

How Eagles keep their young from poyson.

* *Plin. lib. 17. cap. 1.*

Sardius.

* *Ibid. cap. 7.*

14. *Sardius* is a kind of *Onyx* of a blackish or deep yellow colour. * *Pliny* saith it is a common stone, and

was found first about *Sardis*, but the best are near *Babylon*. Some call it a * *Corneol*. It stoppeth bleedings at the nose, sharpens the wit, and makes men chearful and merry, and set in a ring it restraineth anger.

15. *Jasper* is a green stone, pointed with spots like drops of blood.

16. The * *Topaz* is a precious stone, whereof there be two kinds; one of a Gold colour, casting beams in the Sun; the other of a Saffron colour, not so good as the other. This stone being put into boyling water doth so presently cool it, that one may forthwith pull it out with his hand, and feel no scalding heat; or being laid to a wound it stencheth blood.

17. The *Emerald* is a precious stone of a green colour, something like unto the *smaradge*.

18. The *Opal* is a precious stone of divers colours, wherein appeareth the fiery shining of the *Carbuncle*, the purple colour of the *amethyst*, and the green shew of the *Emerald*, very strangely mixed together.

19. *Turcois* is dark, of a sky colour, and greenish. It helpeth weak eyes and spirits, refresheth the heart; and, if the wearer of it be not well, it changeth colour and looketh pale and dim, but increaseth to his perfectness as the wearer recovereth to his health.

The sympathizing Turcois true doth tell,

By looking pale the wearer is not well.

Now follow some such as are less noble gems.

1. *Crystal* is a kind of Ice made of waters which congeal themselves by a vehement and very long cold, as for the space of 10 or 12 continual years. There is some quantity thereof found in the Alps, and other cold Mountains; and being polished, men make thereof work of divers fashions; as Vessels, Glasses, Mirrours or Looking-glasses, and other common things. His quality is said to be binding, and therefore his powder is helpful in Laxes, and increaseth milk in Womens breasts. Also another kind is sometimes found in the Earth, as in some places of *Germany*.

2. *Cor-*

* It helpeth to stop fluxes, and is good against piles in the fundament.
Jasper.

Topaz.
* *Ibid. cap. 8.*

A stone that will suddenly cool seething water.

Emerald.

Opal.

Turcois.
A compassionate stone, the reason whereof shewed in *Corral*.

Crystal.

Good against Laxes.

corral.

2. *Corral* is a stone growing in the sea like a slimy shrub, which by the air presently is made hard and turned into a stone. The Greeks call it *αἰθιδιον*; which is as much as if you should say, *A stony shrub*. It is taken up full of moss, but being unbarked, it appeareth clear in its proper colour.

How it comes
to pass that
there seems to
be compassion
in a stone.

The Red and branchy *corral* cometh something near in nature to the *Turcois*; for when it is worn by those who are shortly to fall sick, it waxeth pale and wan: the reason whereof may be, in that his tender substance is affected by the bad vapour, which is not so soon perceived in the body, because at the first it is not strong enough to afflict it. The stone, they say, is good against the falling sickness, sore eyes, and the stone. Also know that there be three kinds of *Corral*; white, black, and red.

Blood-stone.

3. *Hematites*, or the *Blood stone*, is a stone outwardly of a bloody colour, inwardly like Iron; and of such hardness that the file can scarcely bite it. The quality of this stone is to stench blood, either in a wound, or at the nose: also, it will eat proud flesh out of a sore. It is to be found either in *Ethiopia* or *Arabia*.

Loadstone.

4. *Magnes*, or the *Loadstone*, is coloured like Iron, but blewer, and tending to a sky colour; it hath virtue not onely to draw Iron to it self, but also to make any Iron on which it is rubbed, to draw Iron also. It respecteth the North and South pole; and loseth not this secret virtue unless it be rubbed with Onions or Garlick; which is certainly true, as may be proved by cutting any of the foresaid roots with a knife touched by the Loadstone. Some affirm, that Physically used, it purgeth the Dropsie, and helpeth the Flux.

* In his exercises
against
Cardan.

Also it is supposed that there are certain magnetical Hills or Mountains of Loadstone unto the Artick pole, and they are the causes why things touched with this stone, tend always that way. But learned * *Scaliger* (as well he might) laugheth at this conceit. Again, others (with

(with better probability) are persuaded that the Loadstone inclineth towards the Stars of the pole by a secret sympathy; even as certain Flowers and Plants turn themselves with the Sun. And for the attractive virtue which it also hath in drawing Iron, it is supposed to be also by a kind of sympathy and likeness of substance, there being two causes of attraction; one is *Similitudo*, and the other is *Fuga vacui*. Heat draweth in *Fuga vacui*, and in the similitude of substance, every part is supposed to draw its own proper nourishment. Whereupon (saith * one) such Iron is as it were the aliment or nourishment of the Loadstone, it therefore draweth Iron to it. And, that Iron is a kind of nourishment to the said stone, appeareth in that the filed dust of Iron covering it doth long preserve it, and in tract of time the dust will be consumed; augmenting thereby the accretion of the stone. Not that it eateth, or is nourished by it as a thing having life, but even as the Elements are moved to their places, as being their end and perfection, so it is in the attraction between this Stone and Iron, and the accretion which is caused by their real contraction.

This I think may be supposed. But I leave it to the Readers further enquiry, and abler examination.

5. *Asbestos* is a stone of an Iron colour, which being once fired can hardly be ever quenched. *Pliny* saith that it is to be found in the Mountains of *Arcadia*. *Lib. 37. cap. 10.*

6. *Dendritis* is a white precious stone, which being put under a tree, keepeth the axe that cutteth it from dulling. *Idem lib. 37. cap. 11.*

7. *Galactites* is of an ash-colour; it seemeth to sweat out a kind of liquor like unto milk. * *Pliny* saith it increaseth milk in nurses, and keeps the mouth of the child moist if it be hanged about the neck, &c. some also say that it helpeth running of the eyes, and Ulcers.

8. *Amphitane* is a precious stone of gold colour, square, and of the nature of the Loadstone almost, excepting

* *Magis. Phys.*
where by experience he contradicted
Scaliger.

Asbestos.

Dendritis.

Galactites.

* *Lib. 37. cap. 10.*

Amphitane.

A Stone which
hath power to
draw Gold to
it.

Androdamas.
Plin. lib.

Pensebastos.

Lapis
Thracius.

Amianthus.

One patient in
trouble, what
he may be
likened unto.

These which
follow are cal-
led metals of
a more brittle
nature.

keeping that it is said to draw Gold unto it. *Pliny* saith that this stone is also called *Chrysocola*, and is found in a part of *India*, where the Ants cast up Gold from their Hills. *Lib. 37. cap. 10.*

9. *Androdamas* is a stone hard, and heavy; bright like silver, and in form like divers little squares. It putteth away rage of lechery; and (as the Magicians think, saith *Pliny*) it stoppeth the force of fury and anger.

10. *Pensebastos* is a precious stone taking away barrenness.

11. There is also in *Pliny* mention made of the stone *Thracius*, which being steeped in water burneth and sprinkles, but it is quenched with oyl,

12. *Amianthus* is a stone like unto Allum; this, being put into the fire, is not hurt nor hurried, but rather more bright and clear. Unto which, one patient in troubles and adversities, may be likened; for his afflictions harm him not, but better him; making him look in the midst of a fiery trial, not like one hurried with repining, but clear and beautiful in the sight of Heaven, by refining,

But I conclude; and with him who writeth thus, cannot but say,

*Oh mickle is the powerful good that lies
In herbs, trees, stones, and their true qualities;
For nought so vile that on the Earth doth live,
But to the Earth some secret good doth give,
And nought so Rich on either rock or self,
But, if unknown, lies useless to us self.*

*"Therefore who thus doth make their secrets known,
"Doth profit others, and not hurt his own.*

Now follow metals of a more friable and brittle nature. They are more mollified bodies, may be easily brought into crumbs or dust, are called precious Earths, something clammy, and of a middle nature between stones and the less pliable metals.

First

First I begin with *Terra* * *Lemnia*, which is an exceeding Red Earth of *Lemnos* Isle digged in a red Hill. In old time this had *Diana's* seal upon it, printed by her Priests, who were only wont to wash this Earth: and now in *Silesia* and *Hassia* there is almost as good Earth found. It is of force to resist poison, and to heal old putrefied or festered wounds.

2. *Cinoper* is a soft red stone, found in Mines; otherwise called *Vermilion*; of which *Pliny* speaketh in his 33 book at the 7 chapter, saying, that in times past it was not only of great, but of sacred esteem among the *Romans*: for they painted their gods with it; as he tells us of *Jupiters* Image, whose face was coloured with *Vermilion*. So *Virgil* also, speaking of the Shepherds god *Pan*, saith that he was seen.

sanguineis Ebuli baccis, Minioque rubentem,
With Walwort berries stain'd,
And with Vermilion red.

Neither were their gods alone thus beautified, but their own bodies also, in publick Feasts and triumphing solemnities; as we read again in *Pliny*, that *camillus*, when he triumphed in *Rome*, was painted with this Vermilion.

3. *Bole Armonian*, or *Bole Armoniack*, is of a pale red colour, as easie to break as chalk; being of a very binding nature, and of great vertue against the Plague. and seeing it drieth, it prohieth against all Fluxes.

4. *Oker* is a light clayie Earth, of a red or yellow colour.

5. That which the Grecians call *Arsenick*, the Latines call *Auripigmentum*: but I had rather that *Arsenick* should be the general name, and that it be divided into three kinds; namely, into white, red, and yellow *Orpment*. The white is that which is the common rat-bane. Red *Arsenick* is called *sandaracha*, of a bright red colour, used of Painters, and found in mines of Gold and silver. Yellow *Orpment* is the right *Auripigmentum*.

Earth of Lemnos.

* In *Constantinople* the Apothecaries and Druggists sell of this earth in cakes, on which are stamped certain *Arabian* characters. On the sixth of *August* it is digged forth at *Lemnos* with many ceremonies.

Vermilion.
Eleg. 10.

Bole Armoniack.

Good against the Plague.

Oker.

Arsenick.

pigmentum; it is like unto Brimstone. This (if it be our common *Arsenick*) is a very dangerous drug: for it is hot and burning, so as it gnaweth the stomach, and pierceth the bowels, producing a fever with an intollerable and an unquenchable thirst.

Red Lead.

* *Plin. lib. 33.*
cap. 7.

6. *Red Lead* comes something near to the nature of *Vermilion*: and (as * *Pliny* writeth out of *Homer*) was used by the Trojans, and honoured before they knew *Vermilion*. For (as *Theophrastus* in *Pliny* witnesseth) *Callias* of *Athens* first found out *Vermilion*, thinking indeed to draw Gold out of it. Howbeit, *Red Lead* is no mineral, but made artificially.

Earth of Samos.

Good against
spitting of
blood.

7. *Terra Samia* is a white stuffe, and tough Earth coming from the Isle *Samos*. *Pliny* makes two kinds of it: the one more glutinous than the other; the other more cloddy, less glutinous, and whiter. He saith there be those who prefer the first as best. They are either of them good against spitting of blood. *Lib. 35.*
cap. 16.

Chalk.

8. *Chalk* is a white Earth, which was first found in *Crete*, and therefore in Latine it is called *Creta*: But now we find of it in many other places. *Pliny* makes many kinds of *Chalk*, all which are not white; as in his 34 book at the 17 chapter is apparent; *Fullers Earth*, being a chief kind among them; and that, by others, is called *Creta Tasconia*. *Brown Umber* cometh also near to the nature of the said Earth.

*Fullers-
earth.*

*Brown
umber.*

*Lime-
Chalk.*

Calx is *Lime-chalk*, which after it is burnt will be fired with water, but quenched with oyl, as Authors write. It is called *Calx viva*, because it contains a kind of hid fire in it.

*Black earth
like our coals.*

10. *Ampelite* is a pitchy earth, cleaving and black; being much like to that which we call *Pit* or *Sea-coal*, as some imagine: and (haply) the diversity of climate causeth the difference. There is also found another Earth, which * *Pliny* calls *Pignitis*, and some others *Pnigium*, and it is as black as this.

* *Lib. 35. cap.*
16.

11. *Bitumen* is a fat and tough moisture, like Pitch ; and is called, *Earthy Pitch*. Or thus : It is a kind of clay or natural Lime, clammy like Pitch ; and is to be found in many Countries of *Asia*. They who builded the Tower of *Babel* used this in stead of Mortar, as appeareth in *Gen.* chapter the 11. And so did others also in old time, making it in like manner burn in Lamps in stead of Oyl.

This pitchy Earth is of two kinds : For it is either Hard, or Liquid.

The Hard is more strongly concreted than the other ; being like unto clods, of the Earth, or Coals. Or (as some affirm) it is tough and moist at the first, swimming on the water, but being taken forth it waxeth hard. Of this kind is 1. *Asphaltus*. 2. *Pissasphaltus*. 3. *Succinum*.

Asphaltus is a black *Bitumen*, hard like stone pitch, clear, and smelling scarce so ill as Pitch. It is found throughout *Babylon*, and especially in the lake *Asphaltites* ; near unto which stood those Cities of *Sodom* and *Gomorrhah*, that were consumed with Fire and Brimstone ; and where also do as yet grow Apples, which (according to *Solinus*) are fair and fresh without, but within full of Sulphur ; and being handled they fall all to ashes : In which they are Emblems of the vanities of this World, always seeming more than they are.

Pissasphaltus is said to be *Mummy*, or a kind of *Bitumen* somewhat * differing from *Asphaltus*, and is not seldom found in clods rolling from Mount *Ceravine* to the Sea, as Authors witness. In stead of this, it is supposed that we have counterfeit *Mummy* often out of *Syria*, *Egypt*, and some other places, which is taken from poor mens bodies that die there : For in stead of *Myrrhe*, *Aloes*, *Cassia*, &c. (which the Rich Men have in their Burials and embalmings) the poor are dressed and stuffed up with *Bitumen*. This therefore which is but counterfeit, is nothing else but a corrupted humour taken

Bitumen.

Two kinds of
Bitumen.

Hard *Bitumen*,

Three kinds of
hard *Bitumen*,

Asphaltus.

Worldly vanities like to *Sodom* apples.

Pissasphaltus.
Mummy.

* As having more pitch in it according to *Plin. lib. 15. cap. 15.*

Poor folk are glad of any thing.

ken

Good against
bruiſes, &c.

Succinum.

Amber.

Jes.

Soft *Bitumen*
and his kinds.

Naptha.

What cannot
quench this
liquor.

ken out of old Tombs, which there droppeth from embalmed bodies ; and most ridiculous (in my opinion) do they erre who say it is made of Mans flesh boiled in Pitch. It is hot in the second degree, and good against all bruifings, spitting of blood, and divers other diseales.

Succinum is a Bituminous suck or juice of the Earth, being hard as if it were a kind of stone. It is of three colours : White, Yellow, and Black. The White and Yellow are called *Amber* ; and the Black is *Jes*.

They make beads of *Amber* : and some would have this *Amber* to be rather a gum growing on a tree, than to be a suck of the Earth. The tree by some is called *Ilex Romana* : but (as others report out of *Dioscorides*) it falleth in manner of a liquor from Poplar Trees into the River *Po* in *Italy*, where it congealeth and becometh hard, in that form as we see it.

Jes hath more plenty of fatness in it than *Amber*, and therefore it will burn like a candle, and smelleth like the Pine-tree. It hath an attractive virtue in it to draw chaffe, straws, and such other like stuff unto it, especially if it be rubbed till it be hot. And these are the kinds of Hard *Bitumen*.

The liquid and soft, is like an oily moisture flowing, and is of divers colours according to the variety of the place : but the white is said to be most precious. And for the kinds, the chief are these ; *Naptha*, and *Amber* of *Arabia*.

Naptha, is a liquid Bitume like unto chalky clay, or (as it were) the fat of Bitume ; whereunto if Fire be put, it kindleth in such wise, that if a little water be cast thereon, it burneth more vehemently ; And indeed it hath in it such a fiery force, that it will draw fire unto it, although it be far off. When it is found to flow out of Rocks, then it is called *Naptha Petreolum* ; and by some, taken for oyl. In the Island *Sicily* are Fountains, from whence great store of this liquor floweth, which they frequently burn in Lamps.

Am.

Amber of Arabia, is *Bitume* of an ash colour, and of a fragrant sweet smell, desired and sought for as a most precious merchandise. It is found in *Arabia felix*, near unto a Town which is called *Sichris*. Howbeit *Olaus Magnus* calleth that *Amber*, which is *Sperma Ceti*: but then it is *Ambergreece*, and rather the spawn than the seed.

Amber of Arabia.

12. From *Bitume*, I come to *Alum*: which is said to be a sale sweat of the Earth, according to * *Pliny*; congealing it self with a glutinous Earth and Water.

Alum.

* *Lib. 35. cap. 35.*

It is either white or black.

The white is either clear or thick.

The clear is softer and satter than the other: This is *Rock-Alum*; and if paper be washed with this, it will bear ink very well, although it be bad.

Rock-Alum.

The thick is more hard, and of a grayer colour. Black *Alum* is found in *Cyprus*: and with this, gold is purified and purged. They that desire more, may read *Pliny* in his 35 book at the 15 chapter.

Harder Alum.

Black Alum.

13. *Vitriol* is a suck of the Earth concreted, obtaining the perspicuity of glasse: some call it *Chalcantum*, which word may signifie either *copperas* or *Vitriol*. This suck is very poysonous.

Vitriol.

14. *Salt* is called *Sal*, a *saliendo*; because when it is put into the fire, it skippeth and danceth. It is a friable metal, begotten of a waterish and earthy moisture, mixt and decocted together: the efficient cause whereof is the heat of the Sun and other Stars; who, out of a salt matter, drawing away the thinner and the sweeter parts, leave the earthy still behind, which being thoroughly roasted by hear, become salt. For there be two things requisite in a salt savour: The first, are dry and earthy parts; The other, is an aduersion of the said parts, as Philosophers witness. Salt hath force to bind, to scowre and purge, to disperse, make thin, and the like: which thing Physicians can best declare.

Salt.

Salt is either Natural, or Artificial.

There be two kinds; Natural and Artificial. The Natural,

ral, is digged Salt. The Artificial, is made or boiled Salt.

Digged Sals are gotten either from the Earth, or from the waters, as some distinguish.

Salts digged out of the Earth, be principally of four kinds.

Salt Ammoniack.

The first is *Salt Ammoniack*. This is found in *Africa* under sand, and is something like unto Alum. It is said to be hot and dry in the fourth degree, and serveth to purge slimy humors. Some affirm that that which Apothecaries sell in black clods, is made of Camels stale; and because store of Camels be in *Armenia*, it is called *Armeniack*.

Salt of Indy.

The second is *Salt of Indy*, of which you may read in *Pliny*, lib. 31. cap. 7. that it is digged out of Mount *Oroment*; and that the King hath there a greater yearly pension or custom, than out of Gold and precious stones.

Salt-gem.

The third is called *Salt-gem*, which is a kind of glittering Salt; white, and shining after the manner of Crystal. Sometimes it is also called stony, marbly Salt; *Salt Dacian*, or *Sarmantick*.

Salt-Peter.

The fourth is called *salt-nitre*; and this is that which we call *Salt-Peter*, found in dry places under ground, and in hollow Rocks.

Gun-powder
and guns how
invented, and
when.

Of this is made that fatal dust, called *Pulvis Bombardicus*, or *Gun-powder*: the invention whereof was after this manner. A *Germane* Monk or Fryer of the order of *St. Francis*, whose name was *Bertholdus Swart*, being very studious in Alchymy, was one evening (for the finding out of some * experiment) very busie in tempering Brimstone, sulphurous powder of dried earth, and certain other ingredients, in a mortar, which he covered with a stone; and growing dark, he took a tinder-box to light him a candle; into which whilst he assayed to strike some fire, a spark by chance flew into the mortar, where catching hold of the Brimstone and Salt-peter, it fired with a suddain flash, and violently blew up the

* *Polydore.*
Virgil saith he
was making a
medicine.
* *Lib. 2. c. 7.*
de inventis.

the stone. The cunning Chymist guessing which of his ingredients it was that produced this effect, never left till he found it out: then taking an iron pipe he crammed it full of the said ingredient together with some stones; and putting fire to it, he saw that with great fury and noise it discharged it self. Soon after, he communicated this his invention to the Venetians, who having been often vanquished by the Genowais, did, by help of these bombards or guns, give them a notable discomfiture; which was in the year of our Lord 1380, as *Bachelcerus* writeth in his Chronology, saying, *Hoc tempore COMBARDAE ad hominum perniciem inventa sunt & excogitata a Bertholdo Nigro Chymista & (ut quidam volunt) Monacho Germano.* Wherein we see that he calls them Bombards invented for the ruine of men. For by these (saith he) it comes to pass, that now (in a manner) all the force of the footment, all the splendour of the horse, and all right warlike power, doth shamefully cease, lie dead, faint and dull. *Polydore* also saith, that of all other instruments which ever were devised to the destruction of man, the Guns be most devilish. In which regard (sith he was not well instructed concerning the *Almans* name that invented them) he addeth yet thus much more, saying, *For the invention he received this benefit, that his name was never known, lest he might for this abominable device be cursed, and evil spoken of as long as the World remaineth.* And in the continuation of *Charlons Chronicle* by * *Casper Penczer*, it is also said, that about the beginning of *Wenceslaus* his Reign. That raging kind of engine and tormenting torture (which from the sound we call a * *Bombard*) was found out by a *Mont*, the Devil being the chiefest enginere or Master-workman. For it was their care, that seeing the authority of idle superstitions should decline and fade by little and little, (which through these Authors had bewitched the minds of mortals, and cast them into eternal destruction) this might therefore succeed by them, the same Authors; as another kind of mischief, which

N n

Polyd. Virg. l. m. anita.

* *Lib. 5. pag 817.*

* *Bombarda vocatur a bomb, id est, sonitu qui fitur. Græce dicitur: Hureh. in Chronol.*

should

*In the powder
treason, *Anno*
Dom. 1605.

should rage against their bodies, as that other had done against their souls. To this purpose *Peucer*. And indeed an experiment of his speech we then beheld, when the upholders of that tottering Kingdom would have traitorously tried to have * sent at once even all the Peers of this our Land piece-meal into the air. But he that keepeth Israel shall neither slumber nor sleep. The Lord himself was our keeper, so that their sulphurous fire could neither burn us by day, nor scare us by night; although *Faux* were taken the night before among the barrels, and wished that then (such he had done so much, and could do no more) his match with fire had toucht the powder.

*Oh never let the memory of that day
Fly from our hearts, or dully slide away.
God thought on us, that we remembering this,
Might think on him whose hand defendeth his.*

Salt of Spain.

But whither am I transported now? These four, although they be the principal kinds of salt digged from the ground, yet there be other also; amongst which, those Spanish mountains would be remembred, where there is a Salt cut out, and drawn as stones are out of a quarry; in which place it afterwards increaseth, and filleth up the gap with more salt again. *Du Bartas* callsthis the brine-quarrel hill in *Arrigon*.

Salt not digged
from under
ground.

And as for Salt digged out of waters or watery places or not digged from under ground, it is thus caused; namely, by the heat of the Sun percocting those waters which are extreemly salt. For when salt waters are throughly concocted by the Sun, they are so dried, congealed, and thickened, that in their shores, by their banks, and often upon their very surfaces or superficies, they render liberally good store of Salt. Thus in the Summer time is the Tarentine lake (of which *Pliny* speaketh) turned into salt: the salt being in the surface of the waters, to the depth of a mans knee. So also in *Sicily*, in the lake *Coranicus*. And in some Rivers, the water is known to

Plin. l. 11. c. 7.

run

run underneath in its ordinary course, whilst the uppermost part is turned into salt; as about the *Caspian* * straits, which are called the Rivers of Salt; and also near the *Mardi* and *Armenians*, whose Countreys are in *Asia*.

* They are straits about the *Caspian* sea, scarce the breadth of a waig.
Boiled Salt.

But leaving these, I come to the second kind of Salt, which is artificial and made, or boiled salt. For although the matter be natural, yet the making is by art. From whence it comes to pass, that of one and the same salt water, this man will boyl better Salt than that man; and he, than another. Yea, some, out of water less salt, will boyl and make better salt, than others out of fountains more salt.

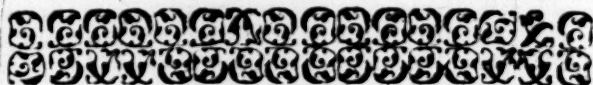
Many be the places where they make Salt after this manner, by boiling of salt water: neither is this Kingdom of ours destitute of such Fountains or Wells. For at the Towns called the *Witches* in *Cheshire*, there is a briny water, which by boiling is turned into white Salt. And the same water is said to be as good to powder any kind of flesh, as brine: for within 24 hours it will powder beef sufficiently. A great blessing of God to raise up such springs for our use so far within the land: as also an evident argument, that the Sea is made salt by the substance of the ground; of which I have spoken my mind already.

And here unto all this, I could add the necessity of Salt; which is such, that we cannot well live without it, and therefore it is the first thing that is set on the table and ought to be the last taken away; according as one translateth out of *Schola Salerni*, saying;

*Salt should be last remov'd, and first set down
At table of a Knight, or Country Clown.*

This, I confess (as pertinent) might be added; but it is now high time to put a period to the discourse of this dayes work. Take the rest therefore, all in one word; and then it is thus;

*The eve and morn were now the third of dayes,
And God gives to his work deserved praise.*



CHAP. VII.

*Concerning the fourth day ; together
with such things as are pertinent to the
work done in it.*

SECT. I.

*Being as it were a kind of entrance into this days work
which treateth of the stars and lights.*



He structure of the Earth being adorned with herbs, trees, and plants, in the third or former day ; *Moses* now returns to shew both how and when God beautified the Heavens ; bedecking that vaulted roof with shining lights and beauteous stars ; which like glittering sapphires, or golden spangles in a wellwrought canopy, do shew the admired work of the Worlds brave Palace.

And seeing this was not done before the sprouting of the earth, it may well be granted that they are but foolish naturalists who will presume to bind Gods mighty hand in natures bands, and tie him so to second causes, as if he were no free or voluntary agent, but must be always bound to work by means.

And again, the Text declareth that the Sun, Moon, and Stars, were all unmade before this present day : and yet it saith there was light before. But it was then a dis-
perfed

perfed thing, and now united to thefe bright lamps of heaven; that that riding, and they running like fiery chariots, might not onely rule the day and night, but alfo diftinguifh the better, and more harmonioufly, the dayes from nights, feafons, weeks, months, and years; and not onely fo, but be alfo for figns of fomething elie.

Alfo, *God made them*, faith the Text. See then the folly of thofe who make them gods, and vainly do adore them. For let it be obferved, that although the Sun and Moon be called the greateft lights, yet if they be worfhipped, they are abufed to the greateft darknefs; and they that deifie them, may damnifie themfelves by being as blind as the heathen Gentiles, and as fuperftitiously addicted as fome (of old) among the Jews; whose answer to the Prophet *Jeremy* was, that they would not do according to his teaching, but follow rather the desperate bent of their own bows, in worfhipping the Moon as *Queen of heaven*. *As for the word that thou haft fpooken to us in the name of the Lord, we will not hearten unto thee. But we will certainly do whatfoever thing goeth forth out of our own mouth to burn incense to the Queen of heaven, and to pour out drink offerings unto her, as we have done, we and our fathers, our Kings and our Princes, in the Cities of Judah, and in the ftreets of Jerufalem.* Of which they give this reason: *For then (fay they) we had plenty of vittuals, and were well; and faw no evil,* Jer. 44. 16, 17. By which laft words it well appeareth, that it was fear as much as any thing elfe, which made them thus advance this practice. And truly fear is an effect proceeding from the nature of fuperftition; and fo far prevailing, that it will there make gods where it doubted moft of danger: as the *Egyptians* did, in making *Fortune* a goddefs. For they kept an annual feaft in honour of her deity; giving thanks for the year which was paff, and earneftly imploring her favour for the year to come. It was *Plutarchs* obfervation, that

* The Moon, as
in Job. c. 31. 26.

the

the superstitious alwayes think the gods ready to do hurt. By means whereof he accounteth them in worse case than malefactors or fugitives, who if they once recover the Altar, are there secured from fear, where nevertheless the superstitious are in greatest thralldom: And from hence arose that ancient saying, *Primos in orbe deos fecit timor*: And hence it also was that the heathen, in institution of their sacrifices, did offer as well to all their gods that they should not hurt them, as for any help they expected from them. An example whereof we have again among the poor silly *Indians*, who sacrifice their children unto the Devil at this very day, because they be mainly afraid of him. And of old (as it is storied) we have the example of *Alexander Magnus*, who sacrificed to the Sun, Moon, and Earth, that thereby he might divert the evil luck, which (as he feared) was portended by an Eclipse but a little before. And the *Jews* did not onely burn incense to the Queen of heaven, but offer up cakes unto her also, as in *Jer. 7. 18.* From which kind of Idolatry *Job* did thus acquit himself, saying, *If I have beheld the Sun when it shined, or the Moon when it walked in brightness: or if my heart hath secretly enticed my mouth to kiss my hand unto it, or by way of worshipping it: then this were iniquity that ought to be punished,* chap. 31. verse 26. It ought indeed to be punished, because God Almighty had forbidden it; as in *Deut. 4. 19.* *Beware lest thou lift up thine eyes to heaven, and when thou seest the Sun, and the Moon, and the Stars, even all the host of heaven, shouldst be driven to worship and serve them, which the Lord thy God hath divided unto all Nations under the whole heaven.* And in *Jerem. chap. 10. vers. 2.* *Learn not the way of the heathen, and be not dismayed at the signs of Heaven: for the heathen are dismayed at them:* Which is, as if it should be said, The way of the heathen is to worship their gods with a servile fear, and attribute divine honour to the creature. But you which are my people, do not you so: for God willesh

willeth not that the works of his hands should be worshipped. Or thus; He there teacheth them to have their trust so firmly fixed on him, that what disaster soever the heavens in the course of nature should threaten unto them, they ought not to fear it. For, *Astra regunt homines, sed Deus astra regit.*

And again, *Moses* in the Text calls t' e Sun and Moon two great lights; the greatest of which (even the Sun it self) seemeth to our eyes but little, and yet by rules of art is found * far greater than the Earth; that thereby we may learn not to trust our senses too much in heavenly things.

List of all, let me prevent a question. The Moon is less than any Star: for *Tycho* makes *Mercury* but 19 times less than the Earth; whereas the Moon is less by 42 times: how then can the Moon be called a great light, seeing her body is no bigger? take this * answer; The Sun and Moon are called great lights, partly from their nature and effects; because they give more light than other stars. The Sun appeareth alone in the day, not because he is alone, but because through his exceeding brightness the other stars cannot be seen. The Moon also in her brightness obscureth many stars; and being more beautiful than any other, hath worthily the chief preheminance in ruling the night, as the Scripture speaketh. Or thus, They be called great lights (say some) according to the custom of the Scripture, speaking according to the capacity of the simple: for in outward appearance they are the greatest, and yet as great as the greatest is, if one should go about to persuade the vulgar that the Earth is of a far less circuit, they would scarce believe it; making the Sun of the bigness of some wheel, and the Moon as much in compass as the breadth of a bushel: howbeit * *St. Ambrose* gives sensible and apparent reasons of greatness in the Sun and Moon, even by daily experience. For first, they appear of like quantity to all the world, whereas herds of cattel being

* Greater than any star and bigger than the earth 140 times, according to *Tycho*.

* Or thus; *Discuntur duo immensaria magna, non tam quantitate quam efficacia & virtute. Quiescentia stellæ sunt majores quantitate, quam lumen; tamen effectus lumen magis sentitur in illis in serinibus, & etiam secundum sensum major apparet. Aquin ex Chryl. Hom. 6.*

* In his Hexamer.

being espied far off seem as ants, and a ship discerned far in the seas, seemeth no bigger than a flying dove. They shew of the same greatness in *India*, and in *England*. They enlighten all parts of the earth alike, and appear the same indifferently to all; and therefore must needs be of an extraordinary bigness. And secondly, as soon as the Sun riseth, all the Stars are hid; which shews his greatness. And further, if the Sun were not of such greatness as Artists give unto it, how could all the world be enlightened by it.

Sect. 2.

Of the Matter, Place, and Motion of the Stars with other like things which are also pertinent.

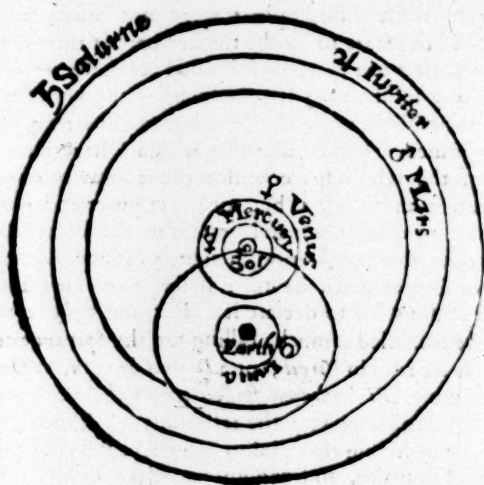
Artic. 1.

That they consist most of a fiery matter, and are cherished by the waters above the heavens.

BY *Heaven* and *Earth*, which *Moses* saith were created in the beginning, we are to understand all and every part of the whole Universe: whose matter was created at once, and made as it were the store-house for all things else; as already in the first dayes work I have declared. Howbeit some contend, that the Stars and Lights of heaven were not made out of any matter, either of the Earth, or the waters, or of Heaven, or any thing beside; but immediatly out of nothing. Which certainly is scarce agreeable to the whole scope of creation: For, in the beginning, the matter of all was made. And perhaps, as it was proper to the earth to bring forth herbs, grass, and trees, at the command of God in the third dayes work, so also (perhaps) it was as proper to the heavens, in some sort, to afford the matter of the luminaries and other Stars, as soon as God

God said, *Let there be lights in the firmament of heaven.* And herein those Philosophers were not much amiss, who defined the Stars to be the thicker part of their orbs. Yet nevertheless not so to be followed, as if the heavens afforded any solid orbs; unto which, as the knots in a tree, or the nails in a wheel, or the gemm in a ring, the stars are joined. For besides that which I have already spoken of the whole space within the concavity of the firmament, viz. that it is but air; yet purer and purer the higher we climb; which I proved in the second day, both by optical demonstration, height, consumption, and motion of Comets, with the like; besides that I say there be other reasons also to declare it. For, not only certain Poets have confessed as much, calling the sky *Spirabile cœli numen*, as we read in *Virgil*; or a *Liquid heaven*, as *Ovid* tells us, saying, *Et liquidum spisso scerevit ab aere cœlum*: nor yet is it confirmed by the testimony of *Pliny* alone, who followed herein the opinion of ancient Philosophers; but even reason also, and exquisite modern observations have made it plain. For, suppose there were solid orbs, or that this concave were not filled with liquid air, would it not follow that there should be as it were *penetratio corporum*, or that one sphere should cut another in sunder? Questionless it would. For the Planets move so up and down that they often enterfere and cut one anothers orbs, now higher, and then lower; as *Mars* amongst the rest, which sometimes (as * *Kepler* con-
firms by his own and *Tycho*'s accurate observations) comes nearer the earth than the Sun, and is again est-
soons aloft in *Jupiters* sphere. And doth not *Tycho*'s
Hypothesis and *Systhema* of the world make it also plain, that the sphere of the Sun must be intersected by the
orbs of *Venus*, *Mars*, and *Mercury*? which could not be
if the heavens were impenetrable, or differed toto genere
from this soft air wherein we live and move. And now
see this figure, framed according to *Tycho*'s demonstra-
tion.

* *Epis. Astron.*
lib. 4.



Thus *Tycho* describeth the ways and situations of the Planets. The Stars therefore move in the Heavens as birds in the air, or fishes in the Sea, and the like : yet so, as their bounds are set: which with great regularity, to the admiration of their Maker, they constantly come unto, and depart away from, in their appointed times and determined orders; and therefore said to be set in the firmament of Heaven, vers. 17. those of the fixed ones being as equally distant one from another, now, and at this very day, as at the first, when God Almighty made them; and those of the wandering ones as constant in their courses, as ever yet from the first time they began to move. Whereupon saith *Tycho*, *semper iudicavi naturalem motum scientiam, singulis Planetis congenitam, vel potius à Deo inditam esse, qua in liquidissimo & tenuissimo aethere cursus sui normam regularissimè & constantissimè observare coguntur.*

*Tych. in Epist.
ad Rothmannum*

111. Yet nevertheless we may not think that therefore they are living creatures, animated with a soul, and endued with life and reason; but rather, and in very deed, (as even now I said) let this be an argument to shew and declare the admired wisdom of their Maker: according to that of *David* in the 19 *Psalm*, *Cæli enarrant gloriam Dei, The Heavens declare the glory of God, and the Firmament sheweth his handy work. For, The Sun comes forth as a Bridegroom out of his chamber, and rejoiceth as a Giant to run his course.* And yet again it is a thing very probable, that those amongst the Jews who made cakes for the Queen of heaven, who burnt incense to the Sun, Moon, Planets, and host of heaven, who dedicated Horses and Chariots to the Sun, did not only do it because they worshipped them as gods, but also because (* like some amongst the Philosophers, and others amongst the * Fathers) they thought them to be living creatures. Sure we are that *Moses* puts them not into his Catalogue amongst such Creatures as he reckoneth to have life; and therefore who will say they live?

They may move, and yet be inanimate; as fire, which is of power to move, waste and consume: air inclosed is able to shake the Earth: water carrieth Ships, Boats, and Barges; flows this way, and that way, yet is no living Creature, hath no soul, mind, or reason.

Also, it may be granted that they are daily nourished by vapoury humours, and are (as it were) fed by such kind of food; yet no living Creatures. For no man will deny a transmutation of the Elements, but rather easily grant that they one nourish another for conservation of the Universe: And in such a kind, or not far differing, it is that the Stars may be nourished by watery humours, and have their beams made wholesome to the World, although they be no living Creatures. All which may be seen more largely proved in *Lydiat's Praelectio Astronomica*: where having discoursed of the matter of the Heavens and Stars, as also of the portions and trans-

* Plato in *Timæo* with others his followers.
See also *Cic. de natur. Deor. l.*
* Origen and his followers.

mutation of the Elements, he proveth that there is such a penury of water here below, that it cannot be supplied (*ad mundi, non dicit eternitatem, sed durabilitatem, propter inaequales elementorum transmutationes*) not supplied, without the consumption of the air, vvere not the waters divided. The one part vvhwhereof is *circa mundi medium*; from vvhence may be had in readines always that vvhich is sufficient to vwater and fructifie the Earth, and leave a place for habitation. The other *circa mundi extremum*, as in a great measure and plentiful store-house, from vvhence (*per medium aeris naturam*) both the Stars are cherished, their beams made vvhollom to the World, and also the expence of these lower waters salved in vvhich is needful; for the earth, as a bad debtor, either sends back none, or little of that vvhich it borrowed, not being easily turned into any other Element. From vvhence (saith he) vve may answer that question amongst the ancient Ethnick Philosophers, mentioned by *Plutarch*, *πῶς τριπλὴν ἡ βίη, ὅθεν ἡμῖν αἰὲν ὕδωρ*, *unde nutritur mundus*.

And indeed for mine ovvn part I also think, that the Stars are of such a nature or substance, that (in their kind) they stand in need of daily sustentation, like a Lamp vvhich can burn no longer than the oyl lasteth vvhich ever feeds it. For the Heavens are subject to change and alteration; neither is there any necessity compelling us to attribute a quintessence to either of them (especially seeing vve are certain that the World is not eternal) but that vve may as well and as probably grant them to be of the same nature vvvith the Elements; as formerly I have related. Which being granted, I suppose them to be chiefly of a fiery nature; and this (perhaps) they took from the * highest part of the air, in the suprem height of Heaven, which reacheth to the utmost extent of the out-spread Firmament: For there is that which we call the Elementary fire; there, I say, and not in a lower place; although *Aristotle* would have.

* Or, *A luce primæva*, which was made in the first day: in which see more.

have it *in concavo luna*, or next under the orb of the Moon; of which see more in the second days work.

And herein I do willingly also embrace the opinion of *Plato*, that the Stars for the most part are fiery; yet so, as they in some sort participate also of the other Elements; that thereby their bodies may be (as it were) glewed together, and firmly concreted into a durable lump: differing no otherwise from a Comet than ice doth from Crystal, or a clear solid gem from bright brittle glass. An experiment whereof we have in that new Star of *Cassiopea's* chair, which, because it was of a more solid composition than ordinary Comets, and of a nearer nature to the matter of the continuing Stars, did therefore appear like one of them, and lasted a long while with them before it was extinguished: for had it not been exalted to a great perfection and solid composition of the parts, it had been gone, extinct, and vanished, a long while sooner. And in granting to them something of every Element (although their greatest portion, especially in the Sun, be fiery) it comes to pass that they have differing qualities: of which see more afterwards in the Astrological part of this dayes work. Neither shall I need to stand upon it as a thing necessary for me to prove, whether they make warm the air and us by any heat which is formally in them, or by the attrition made with their beams. Only know, that it is hotter in Summer than in Winter, because when the beams of the Sun come nearest to a perpendicular trajectory, their heat is the greater, because their reflection is the stronger.

But leaving this, give me leave to proceed, and to prosecute more fully the matter in hand, that thereby I may shew my meaning now more clearly concerning the daily nourishment of these bright heavenly lamps. For (as hath been said) seeing their chiefest matter is of that nature of which appeareth to be, they must of necessity be nourished out of some store-house or other; otherwise

See concerning this in Six
Christopher Heydens last
book of Astro-
logy, set forth
of late. Dr.
Fisk. cap. 10.

wife the World comes to decay, & *impavidum servens ruina*, and the very ruins will strike him who fears it not. For satisfaction thereof in this, it cannot be amiss to remember the opinion among sundry of the Ancient Philosophers, who said the truth, and yet erred in declaring it; as *Cleanthes*, who allowed the matter of the Sun to be fiery, and that it was nourished by humors attracted from the Ocean. Also *Anaximander* and *Diogenes*, after whom *Epicurus*, and the Stoicks, thought in like manner that the Sun was nourished by waters: and lest it should perish through any defect of aliment, they fondly supposed that the oblique motion which it had from one Tropick to another, was to find out moist humours, that thereby it might live perpetually. Now these things very worthly were held by *Aristotle* to be ridiculous and absurd; as in the second book of his *Meteors*, at the second chapter, is apparent. Yet nevertheless succeeding times did in a manner pitch still upon the same tenets, and would not only have the Sun and the rest of the Planets, but even all the other Stars nourished by Vapours and watery humours, as well as they. For amongst others, it was *Cicero's* opinion in his second book *De natura deorum*: making the Sea, and Waters of the earth, their daily store-house. See also *Seneca* in his 6. Book and 16. Chapter of Natural questions; and *Plutarch* in libello de *Iside*: and *Pliny* in his Natural history, lib. 2. c. 9. whose words are these, *Sydera vero haud dubie humore terreno pasci*, &c. These indeed spake the truth, but (as I said before) they erred in declaring it. For it is nothing probable, neither may it be granted, that all the Seas, or waters in the world, are able to afford moisture enough for such a purpose.

Dr. Esst.

And therefore smile I at those fable-forgers,
 whose busie idle stile so stiffly urges
 The Heav'n's bright Sapphires to be living creatures
 Ranging for food, and hungry fodder-eaters;

Still

still sucking up (in their eternal motion)
 The Earth for meat, and for their drink the Ocean.
 Nor can I see how e^r Earth and Sea should feed
 So many Stars, whose greatness doth exceed
 So many times: (if Star-Divines say troth)
 The greatness of the Earth and Ocean both:
 For here our Cattel in a month will eat
 Sev'n times the bulk of their own bulk in meat.

Wherefore be pleased to call to mind what was formerly mentioned in the second day, concerning the waters above the Heavens, set apart from these below by the out-spread Firmament: but how it is that there they are, and that the out-spread Firmament is able to uphold them, let the alledged reasons in the foresaid day be again remembred. And then observe, that these waters were certainly separated for some purpose: for *Deus & Natura nihil faciunt frustra*; God and Nature make nothing in vain. He made all things in number, weight, and measure, *saith Solomon; so that there is nothing which was not made for something. I do therefore consent again to those who *suppose that these waters do daily nourish and cherish the Stars; thereby also so tempering and ordering their beams, that they may remain wholsom to the World; turning also and attenuating those drops, with which they are cherished, into thin air: and so doing, nature is kept from perishing before her time.

Neither let it seem strange, although the Stars be granted to consist most of a *fiery temper, that therefore they cannot be cherished by watery humours: for it is certain that fires are endued with sundry qualities or forces, according to the divers mixtion of matter, or divers disposition of the subject. From whence it comes to pass that a bituminous flame is not quenched, but nourished in water; and the fire of lightning is said to burn the fiercer when we strive to quench it. These waters therefore, sweating (in the likeness of thin vapours) through

* Wils. II. 12

* Lydiat Prae-
 lect. Astron. &
 l. de Orig.
 Font. c. 10.

* *Ignes sunt, si-
 ve à luce pri-
 maria facti:
 & sic, lux est
 essentia stella-
 rum. Ignis enim
 non aliud quam
 calor densatus,
 sive lux compa-
 cta. Patric.*

through the utmost extent, or roof of the out-spread Firmament (which was made strong by stretching out, and by which they are upholden) do both supply that decay of air which otherwise would be, and also do so temper and cherish the diurnity of the Stars, that thereby they shall continue unto the end of the World. *Elementorum transmutationes* (saith * one) *sunt inaequales, ergo & proportiones; ac majores quidem eorum, quae facilius transmutantur in alia; & hoc ex necessitate, non dico ad mundi aeternitatem, sed diurnitatem. Aqua autem multo magis mutatur in terram, quam terra in ipsam: & aer hoc aqua damnum, sine maximo sui dispendio, refarcire nullo modo potest nisi ab aquis super caelestibus.* And (perhaps) the daily wasting of these waters may be the cause that the World is perceived to have a successive declination, and to grow old as doth a Garment; until at the last, age (for want of matter to keep an harmonious transmutation in the conservation of it) shall (according to the determined purpose of Almighty God) suffer it to end, as being worn out, and little able to continue any longer. Which, when it shall be, or how he intendeth to shorten it, rests only in the secret counsel of the holy Trinity: the Divine word nevertheless testifying, that (as tokens before it) *there shall be signs in the Sun and the Moon, in the Heavens and Stars. For the Stars shall fall from Heaven, and the powers of Heaven shall be shaken. Cadent de caelo stella* (saith * one) *non ratione substantia, sed lucis; quia lumen suum retrahent, & obscure reddent.* Which saying agrees directly to my meaning, when I speak of the waters wasting. For as the Elements before, from time to time, have suffered a transmutation, and shall now begin to devour one another; so the Stars shall fade, and (perhaps) be weakened in their qualities, by having the less powerful Elementary part in them turned by the more powerful; or if not so, yet much altered by that sensible decay in the waters above the Heavens.

And

* Idem.

Math. 24. 29.

Mark 13. 25.

Luke 21. 26.

* Gerard. loc.

Tom. 9. p. 231.

And thus, though I differ from *Aristotle* and the Peripateticks, yet I have not so much declined from the paths of other ancient Philosophers, or from the steps of *Plato*; in which, how far, (in my judgment) we may follow the Academical sect, the Stoicks, and those of *Epicurus*, hath been related. Howbeit I leave all free to the more judicious; though for mine own part I think thus of the Worlds *Systema*. Let therefore those of the adverse part pitch their censure with the more favour, and so I proceed to the following articles.

Artic. 2.

Of their order and place in the Skie; and how it comes to pass that one Star is higher than another.

HAVING already shewed that the whole concave of the Heavens is filled with no firmer matter than soft and penetrable air: and that the Stars have no solid Orbs to uphold and move them, it may not unfitly be questioned how they should hang in such a weak yielding place, and yet (according to their times) keep such several certain distances one from another, as we see they do.

To which perhaps, some would answer, that every Star, in respect of his either more or less fiery quality, doth either more or less ascend from the centre; and so, according to his gravity or levity, rest naturally higher or lower, as in his proper place: the air having a like power in the upholding of fiery bodies, which the water hath in carrying of airy bodies. For as a piece of *Brasil*, or *Lignum vite*, will sink lower into the water than some lighter kind of Wood wherein there is more air: in like manner that Star which hath most of his matter from the more gross Elements, takes his place in the lowest room; whereas the lighter ones are naturally seated higher. And indeed this is an answer which

would serve the turn, and bear out the matter well enough, if there were no Stars but those which we call the fixed Stars; for they are never observed to be higher or lower, but always of one and the same distance from the Centre. But seeing there be Planets likewise whose distances are unconstant, and whose places, are at some one time far more absent from the earth than at some other; nay, *Mars* is sometimes nearer than the Sun: seeing it is so (I say) their gravity or levity cannot absolutely be the cause: but rather ought this to be referred to that infused force which his hand first gave them who placed them there. For as the Sea being stirred by the Moon to a lofty flux, and having lifted up his rolling waves above the neighbouring banks, would in probability overflow the earth, if the Almighty had not infused it with some occult quality, saying, Hitherto shalt thou come, and no further; as we read in *Job*: So likewise the Stars would not keep their high and low places at certain infallible times so as they do, and be so orderly in their motions as they are, were it not from the power first put into them when they were placed in the Firmament: of which I spake but a little before, when I shewed they were no living Creatures. For conclusion thereof, I like well of the former reason if it be referred to the fixed Stars; but as concerning the Planets, we see that it holdeth not in all and every part, nor yet is absolutely found sufficient. And yet for further satisfaction of the curious, let it be supposed that the air is ever thinnest in that place whereunto the Sun is nearest: So that though the Planets naturally have but one place, yet accidentally they may be found either higher or lower, according to their approaching to or from the place of the Sun: like as may be seen in one and the same weight, if it be proved how unequally will it sink in divers waters, and in waters of a differing thickness. Of which read more in Mr. *Lydat* his *Praelectio Astronomica*, in the fourth and eighth

eighth chapters. But in the mean time, and ever after, admire the wisdom of thy Maker, and praise his holy name : for he hath so done his marvellous works, that they ought to be had in perpetual remembrance.

*O never let these works forgotten be;
Their art is more than humane eyes can see.*

Sect. 3.

Of the offices given to the Sun, Moon, and Stars, in the day of their Creation.

Paragr. ♀

Shewing that their first office is to shine upon the Earth, to rule over the day and night, &c.

Artic. 1.

Of light, what it is : and whether the Sun be the only Fountain of light.

THe former part of my discourse hitherto in this days work, was chiefly founded upon these words, *Let there be light in the Firmament of Heaven* : and upon these, *And God made the Stars also*. But now I come to speak of their offices : The rest whereof is that exquisite one above the rest ; I mean their bright and radiant shining, by which the dismal clouds of foggy darkness are daintily devoured, and the sweet comeliness of the Worlds ornament made apparent. For without light all things would appear like the face of Hell or horror, and each parcel of the Worlds fabrick lie buried in black obscurity, and dismal squalour. Whereupon one speaketh worthily, saying, that amongst those * qualities subject to sense, there is none more fit to shew the due *decorum*

* But how it is a quality, see afterwards.

and comely beauty of the Worlds brave structure, none more fit than light. For where it spreads it self (either above us, or below us) all things are then encompassed with such a splendour, as if a golden Garment were dilated over them, or curiously put upon them. Let it not then be ashamed to shine and shew it self to the praise of him who made it. For, *praise him Sun and Moon, praise him oh ye Stars and light*, was Davids song But to proceed: Authours make a difference between *Lux* and *Lumen*. It is called *Lux*, as it is in the fountain, that is, in a body which is lucid of it self, as in the Sun: so saith *Zanchinus*. But it is *Lumen* as it is in some *Medium*, that is, in corpore diaphano, as is the air, or water. *Lumen enim nihil aliud est quam lux, lucisve imago, in corpore diaphano*, From whence may be gathered, that that primary light, which we comprehend under the name of *Lux*, is no other thing than the more noble part of that essence which is either in the Sun, Moon, or Stars: and so far as a corporeal substance may be given to fire, it may be also attributed to that which is properly called light; being in and of those Lamps of Heaven which were made *ex primæ luce* chiefly, and so came to appear of a fiery colour. Whereupon *Patricius*, writing against the Peripateticks, saith, *Lux est essentia stellarum. Nihil enim aliud flamma quam lumen densius; & lumen, non aliud quam flamma rarior. Calor quoque, non aliud quam ignis rarefactus atque diffusus; & ignis, non aliud quam calor densatus, sive lux compacta*. Take therefore my meaning rightly, lest I be supposed to be much mistaken.

And again, concerning *Radius*, which is a Beam or Ray, it is no primary light neither: but rather (as *Patricius* also writeth,) it is *Fulgor à Luce exsiliens in rectam & acutam figuram seu in modum Pyramidis & Coni promiscans*. To which, *Scaliger* is affirming; saying, *Lux est, alia in corpore lucido, ab eo non exiens; & alia à corpore lucis eximians ut Lumen & Radius*, And *Zabarel* also saith, *Lux, alia est propriè dicta in astris ipsis; alia, a luce producta in perspa-*

CWO.

quo. Whereupon I cannot but be perswaded, that light in it self, properly and primarily taken, must be an essential property; as formerly I have related: but to the air, or other things enlightened by it, it is an * accidental quality approved of God as good, both to himself and the future creatures. For although it be commonly said of compound things, that they are such as we may distinguish of them *in ipsam essentiam susceptricem, & in eas quæ ipsi accidunt qualitatem*: yet here the case proves otherwise; because the Sun and Stars have *susceptram semel, secumque immixtam lucem*. And again (as saith Theodoret) *Lucem quidem condidit ut voluit. Quemadmodum vero firmamento aquas divisit, ita lucem illam dividens ut voluit, luminaria magna ac parva cælo collocavit.*

And as touching the brightness of the Stars, the Sun may well be called *Oculus mundi*, The eye of the world. For he is indeed the chief fountain from whence the whole world receiveth lustre; shining alone, and enlightening our whole Hemisphere, when all the other stars are hid. From whence some Philosophers and Astronomers have been of opinion that the fixed Stars shine not but with a borrowed light from the Sun. *Plutarch*, in his 2 book, and 17 chap. of the opinions of Philosophers, saith, that *Metodorus*, and his disciples the Epicures, have been of this mind. But according to the minds of the best Authors, and nearest equipage to truth, the stars are called lights, as well as the Sun and Moon; although there be a difference between them, either of more or less. For *Paul* distinguisheth between the stars and sun, *non privatione lucis, sed tantum gradu*. And when God said, *Let there be lights in the firmament of heaven*, he made not the Sun alone, but the sun, moon, and stars: the light in the stars being in very deed darkned by that in the sun; which doth but differ in degree from that in them. Whereupon it is that the stars shew themselves by night onely when the sun is hid, or in some deep pit whether the sun-beams cannot

* Observe this difference; because light commonly taken is said to be a quality.

Sol.
The Sun.

I Cor. 15: 41.

cannot pierce. If therefore we cannot see them, *Id non solis, non stellarum culpa fit, sed oculorum nostrorum hic est defectus: ob solaris enim luminis copiam ac vigorem debilitantur.*

Also, some add their influences; as that of the *Little dog*, the *Pleades*, and others, being plain testimonies of their native light: For if they had not their proper and peculiar light (being so far distant from the inferior bodies) it is thought they could not alter them in such sort as they sometimes do: and evermore the further they be from the Sun, the better and brighter we see them.

And as for the diversity of their influence, the differing quality of the subject causeth this diversity. So that though this light, for the first three dayes, was but one in quality, it came to have divers effects as soon as it was taken and bestowed upon the stars and lights. And (perhaps) as there is in them the more of this fire, the hotter is their quality; but little fire, and more water, the moister and cooler; and so also, the more earthy substance, the darker.

The Moon.

Neither do I think that we may altogether exempt the Moon from her native light. For although she shineth to us with a borrowed light, yet it is no consequence to say, she hath therefore no own proper light. There is (saith *Goclenius*) a double light of the moon; Proper, and Strange. The proper is that which is Homogeneous to it self, or *lux congenita*, a light begotten together with the Moon, and essential to it, although it be but weak. The other is that which it borroweth from the Sun; as is seen in Eclipses and monthly revolutions: For she is one while full, another while hid; one while horned, another while half lightened; which is but in respect of us, who cannot see what light she borroweth, but as she approacheth from the Sun: for otherwise she is half lightened always. Or (if you please) consider it thus, that as a well polished Mirrour transporteth the

the light of the fire, or the Sun against a wall or a floor; so the Moon receiveth her light from the Sun, and reflecteth it in the night upon the earth; for the Sun, being then absent, gives an abundant and free leave to see it. And again, as in a Mirrour, which hath behind it his foil of lead scratched and torn, a man may perceive certain spots; so in the Moon, because her body is in some places rare and transparent, and in other places massie, thick, and solid, there appear certain *Macule* or blemishes: for those places and parts are not of a fit temper to reflect the light of the Sun.

The Spots of
the Moon.

But if it be so in the Moon, why may not the other stars shine likewise with a borrowed light as well as she?

I answer, Because we have not the like reasons to declare it. Neither is it like (saith *Parricius*) that that unmeasurable company of fixed stars in the highest part of heaven (which is so much more noble than the place of the Sun, by how much it comes nearer to the Heaven of Heavens) should shine but by the light of the Sun: For neither in them, nor in any other of the Planets, doth any man see a waxing and waning of light; nor yet are they ever eclipsed, but shew alwayes of one and the same brightness: and therefore it is not the same reason between the Moon and them. Perhaps, if their bodies were composed in the same manner with the body of the Moon, or had the like proportions and temperaments that she hath, it might be so; but her lowliness shews her gravity; and her gravity her solidity; and her solidity shews, not only her own light to be weak through a want of that fiery matter, or *lux primeva*, which is in the other stars in a differing degree, but also her aptness for reflection is declared to be such, as she may well shine by a borrowed light.

Howbeit I do also think that the stars have *aliquid lucis aliena*, which they receive from the Sun. To which *Parricius* also assenteth (as he is mentioned by

* *Casiman*

* Cap. 10.
quest. 7.

* *casman* in the first part of his Astrology) saying, *Tribus quidem omnibus, sed lucere nequaquam facit. Nam & ipsa flammæ sunt, & sua essentia lux sunt, non minus & suis viribus lucere possunt, & lucent. Sed lumen suum eis sol addit, lucemque eorum reddit lucidiorem. Lucem ergo eis non indet, sed insitam adauget*: meaning that the Suns light increaseth the light of the stars, making it the brighter and the clearer: which must be understood of them, so long as they are at a convenient distance from the Sun. For if they be too near, either the lesser light is obscured by the greater (as is seen in the Planets, being often hid by the beams of the Sun) or else such a dark star as *Mercury*, will vvith the loss of his light shew us his dark body, vvhich sometimes happeneth, being then seen as a spot in the Sun: For if you take *Mercury* in his best hue, he hath but a cloudy countenance, and a leaden look; vvhich therefore argueth that he hath a thick body and little light; of vvhich I shall need to say no more.

Artic. 2.

*Of the twinkling of stars, or vibration of
their light.*

THe twinkling of the Stars is the vibration or trembling of their light. Or rather thus; It is when the light of any Star seemeth to tremble. For indeed, to speak properly, the Stars themselves do not twinkle, as we think they do; but either from the trembling of the eye, or motion of the air, this appearance proceedeth. For when the eye looks long at a sensible object whose brightness excelleth the sense, it then beginneth to faint, and being weak and weary, is possessed with a kind of trembling; and thereupon we think that the star it self twinkleth. Also the Optick Masters confesse and prove, that the forms of the stars are comprehended

headed of the light reflectly, and not rightly: that is, a right line drawn from the eye falleth not into the centre of the Star, but into the form of it reflected and refracted in the air to the sight. Now it is manifest, that as the air hath one motion proper to it, which is upwards; so hath it another motion improper, caused by the revolution of the Heavens every 24 hours, which draweth all the airy region about therewith; by which means the apparant from of the Stars is distracted, seeming to cast forth sparkles, called twinkling. For if the body move wherein the form of the Star appeareth, it must be so: which we may well prove by a piece of silver in the bottom of a swift running brook, or by the reflection of the Stars seen in the same: for by the running of the water the reflected form is distracted, and as it were broken; and so it is likewise in the air with the Stars.

But may not this twinkling be seen in the Planets as well as in the other stars? I answer, that not always, yet sometimes it may; and this is but when a watery vapour is near unto them, which is carried and tossed of the winds with a various motion; for then the forms of the Planets also being refracted in the said vapour, appear to the sight as if they twinkled. Now this is most of all perceived in the East at the time of their rising: whereupon it comes to pass that the common people have supposed they have sometimes seen the Sun dance, and as it were to hop up and down; which, why some have attributed it to such and such days, is fabulous: For this may be upon any day when the Sun meets with a fit portion of vapours at the time of his rising; and the other Planets may also in some sort sometime shew it, when they have climbed to an indifferent height above the Horizon; which because it is not ordinary, some have falsely supposed that the Planets twinkle not at all. And again, let this be remembred, that (if there be fit vapours rightly placed) *Mars* and *Venus*

A reason of the
Suns dancing.

See Scal
Exer. 63. &
Galenius Dis-
put. 1. 1. 1.

twinkle more than *Saturn*, *Jupiter* and *Mercury*: but otherwise this appearance is neither in *Mars* nor *Venus*, nor any of the rest.

Paragr. 2.

Of that other office which was given to the Stars; viz. that they should be for signs, &c.

Artic. 1.

That the Stars are signs of future events; and that by their natural qualities, they work upon the inferiour world, and all the parts of the same.

IF I should expound the words of *Moses* so nicely as some have done, the Stars must then either signifie nothing in the course of nature, or else be for signs only of seasons (as Spring, Summer, Autumn, Winter) and of dayes and years. Which exposition doth certainly tie up the sense in too strait bounds: For it is plain enough that *Moses* very positively setteth down as a distinct office of it self, that they were made for signs: And then he proceedeth, adding therewithal. *And let them be for seasons, and for dayes, and for years.*

In consideration whereof, the sentence certainly must be divided.

And first let us observe out of it, that the Stars, by a divine ordination, were set in the Heavens to be for signs of future events: whereof it is said, *Let them be for signs.*

Secondly, they were appointed to be (as it were) Heavenly clocks, and remarkable measures, by their motions defining and discerning Time and the parts thereof, as dayes, weeks, months, and years: And therefore it is also added, *And let them be for seasons, and for dayes, and for years.* Of which two offices I purpose to discourse

course a while, beginning with the first, as being most pertinent to this Paragraph.

And lest it may be thought that *Moses* his meaning is here mistaken by me, besides other things that I purpose to remember, I would have him compared with the Prophet *Jeremy*, in the tenth chap. at the 2. verse, where, when the Prophet commands the people that they should not learn the way of the Heathen, he calleth the Stars (like unto *Moses* in this very text) *The signs of Heaven*. From whence * *Melanchribon* gathereth, that the Prophet doth not only name them signs, but also sheweth that they were set to be signs of portending something. For, *Non ait Jeremias, nihil esse signa cæli; sed, A signis nolite timere. Imo cum nominat signa, portendi aliquid affirmat.* And *Luther* also affirmeth, in his commentary upon the words of *Moses*, *Simpliciter lunam cum sole & stellis in firmamento cæli Moses dicit positas, ut essent signa futurorum eventuum; sicut experientia de Eclipsibus, magnis conjunctionibus, & aliis quibusdam Meteoris, docet.* Which is, *Moses* plainly saith that the Moon, with the Sun and Stars, were placed in the firmament of heaven, that they should be for signs of future events, as experience teacheth us in Eclipses, great conjunctions, Meteors, and the like. To which may be also joyned the testimony of the learned *Philo*, alledged by *Sir Christopher Heydon* in his defence of Judicial Astrology, *Thus man* (saith he) *was familiar with Peter the apostle, and with Mark*; And in divers places, but specially in his *De Mundi fabricatione*, in his exposition of that in the 1 of *Genesis*, viz. *let them be for signs*; he thus speaketh, saying, *They were created, not only that they might fill the world with their light, but also that they might be for signs of future things.* For by their rising, setting, defections, apparitions, occultations, and other differences of motion, they teach men to conjecture of the event of things: as of plenty and dearth; of the growing up or decay of Creatures animate; of clear weather and storms; of calms and winds; of overflowsings and of droughths; of the quiet

* *Præfat. in lib. Schoneri de judiciis naturalibus.*

motion of the Sea, and the boisterous times of waves; of the anniversary changes of times, either when the Summer shall be tossed with Tempests, or the Winter scorched with heat; or when the Spring shall be cloathed with the nature of Autumn, or Autumn imitate the Spring. Yea, (saith he) by these some have foreshewed when there should be a shaking or trembling of the Earth, with infinite other things which have certainly come to pass, insomuch that it may be truly said, The Stars were appointed for signs and seasons. Thus far Philo: than which what can be plainer?

The Stars are
causes as well
as signs.

Neither are we to take them as bare, naked, and simple signs only, but as causes also of Worldly events: which whilst some have denied, what do they but run mad with reason, and plainly oppose themselves to more than common sense? For it is certain that the same thing may be both a sign and a cause: a cause, as it worketh to an effect; and a sign, as being presented to the sense, it leadeth us to the knowledge of the effect: And therefore when the Stars are called signs, their causality is not excluded. Howbeit, in some things when they work upon a subject not immediately but by accident, they be then occasions rather than causes.

But let me enlarge my self upon this discourse a little more: and because some have denied that the Stars have any vertue at all, or that we ought to attribute no more power to them than to the signs at an Inn-keepers Post, or Tradersmans shop, I purpose to shew the vanity of that error as plainly as I can, both by Scripture, and also by daily experience.

And first for Scripture. Those Oracles tell us that great is the force and Dominion which the Stars have; Heaven being the admired instrument of the glorious God, whereby he governeth the frame of this corruptible World: For had the Heavens and Stars no force at all, the Scripture would never distinguish between the sweet influences of the *Pleiades*, and the binding virtues of *Orion*: but the Scriptures make such a distinction: there

therefore the Stars have their power. The *minor* is proved out of the book of *Job*, chap. 38. 31. where the words are these, *Canst thou bind the sweet influences of Pleiades? or loose the bands of Orion?* by which speech the Almighty doth not only shew that the Stars have their virtues, but also declare that their power and virtue is such as no man on Earth is able to restrain, unloose, or bind it: and here *S. Austin* also teacheth us, that God comprehendeth all the rest of the Stars, by the figure *synecdoche*, putting the part for the whole; which is an intimation that the rest have their several virtues, as well as these. For further proof whereof see, concerning some of the other, in *Deuteronomy*, chap. 33. 14. Of *Joseph* he said, *Blessed of the Lord be his Land, for the precious things of Heaven, for the dew, and for the deep that coucheth beneath, and for the precious things brought forth by the Sun, and for the precious things put forth by the Moon:* where we see that the Sun and Moon have power to thrust forth the fruits of the Earth. And again, **I will bear the Heavens, and the Heavens shall bear the Earth;* where we see last of all, that the vegetation of the fruits of the earth dependeth not upon one or two constellations, but upon the whole Heavens.

*Hosea 2. 21.

Also were the Stars and lights without power, the Scriptures would never tell us of their dominion over the Earth; but the Scripture speaketh of their dominion: therefore they be not destitute of power and virtue. The *minor* is proved in *Genesis*, chap. 2. 1. and in the second book of *Kings*, chap. 17. 16. and chap. 21. 3. and chap. 23. 5. and in *Jeremy* chap. 19. 13. and in *Zeph.* chap. 1. 5. and in the *Acts*, chap. 7. 42. For in all these places the holy Ghost calleth the Stars, the *Host* and *Armies of Heaven*; thereby amplifying the divine power of God by the force and power of these glorious Creatures: and this also is further confirmed by that in the song of *Deborah*, *Judges* 5. 20. where it is expressly testified that, *The Stars fought from Heaven, the Stars in their*

their courses fought against Siferia. Thus far Scripture.

And now let experience also speak, that thereby they who will not frame their understandings to be taught by the one, but will seek for strange expositions, may be forced to yield and acknowledge the truth by compulsion of this other: in the front whereof, I cannot but remember the noble * Poets saying,

* Du Rars. 4th
day of the first
week.

*Senseless is he, who (without blush) denies
that to sound senses most apparent lies:
And 'gainst experience he that spits fallacious,
Is to be hift from learned disputations:
And such is he, that doth affirm the stars
To have no force on these inferiours.*

1. As for example, when the Sun shifts his habitation, how diversly are the seasons differing! insomuch that although the frosty beard of winter makes us tremble and shiver through extremity of cold, the warm lustre of the summers raies causeth us on the contrary to sweat, and as it were pant through heat.

2. Also the terrible accidents that succeed Eclipses may not be forgotten nor vilipended: for the testifie that the Sun, by his heat and light, quickenth, after an admirable fashion, all earthly creatures, being as it were the source and conserver of vital heat; and that the Moon also hath a great power over inferiour bodies. For if it were otherwise, such lights coming to be hidden from the Earth, where there is a continual revolution of generation and corruption, could not cause after their eclipses the nature of inferiour things to be so altered and weakened as they are, both in the Elements, and also in bodies composed of them.

3. And furthermore, who seeth not how orderly the tides keep their courie with the Moon? of which I have spoken in the third dayes work.

4. Also, it is an observation that seldom faileth, viz. that we have thunder and lightning in the summer time

time at the meeting of Mars with Jupiter, Sol, or Mercury; and for the most part great winds, when Sol and Jupiter, or Jupiter and Mercury, or Mercury and Sol, are in conjunction.

5. And again, the increase and decrease of bodies, or of marrow, blood, and humours in the body, according to the increase and decrease of the moon, doth speak for that horned queen, and signifie that her vertue is not little. For as she fills with light, the marrow abounds in bones, the blood in veins, the sap in trees, the meat and moisture in the oyster, crab, and crea-fish.

6. Moreover, experience also teacheth, that all such wood as is cut for timber, if it be not cut after the full moon, will soon be rotten.

7. Also those Pease which are sown in the increase, never leave blooming. And (as some report) the Pomegranate will bear no fruit any longer than just so many years as the moon was dayes old when it was first set and planted. The *Heliotropium*, with certain other flowers and plants, we likewise see that they keep their course with the Sun. And *Pliny* reports in his 37 Book at the 10 chapter, that the *Selenite* is a stone which hath the image of the moon in it, increasing and decreasing according to her course in the heavens. And doth not *Cordan* also report for certain (as Sir *Christopher Heydon* testifieth) that *Clemens* the 7. had a precious stone, in which there was a little spot, that according to the suns motion every day rising and setting, did turn about, and both appear and vanish in the stone?

8. Also, Physicians find the daily alteration of sick spirits to be ruled by the moon, and that therefore their observation of critical dayes is no vanity.

9. And again, experience hath also witnessed that those children which are born in the new moon, or in the time of an Eclipse, Saturn or Mars in a bad aspect to the Moon, those children (I say) do seldom live till they be weaned, but die either sooner or later in the time

* Ex. Marshallero
in his *Astrolo-*
giae encomia.

time of their nursing. To which purpose * *Joachimus Hellernus* also speaketh, saying, *Qui prope luminarium Synodos eduntur in lucem, Saturno aut Marte infelicitur lunam respiciente, si natura imbecilliores evadunt, ac plerique intra nutritionis annos extinguuntur; quod & ego domestico malo filii primum, deinde filia obitu, & alii infinitis exemplis experti sunt.* And he gives this reason for it. *For when* (saith he) *the Humidum radicale, which keeps life and soul together, is made weak in those small bodies by reason of the things of it, then by the combustion of the Moon, wherein all humors are sensibly wasted, it is easily consumed by too much driness: whereupon those bodies thus affected are consumed for lack of natural moisture.*

I conclude therefore, that as it is with herbs growing on the ground, so with Stars moving in the sky; viz. that as herbs have their natural qualities and operations, so the Stars likewise work on this inferior world, by their qualities and natural virtues.

Howbeit this operation is measured and squared according to the matter vvherein it is received: as for example, we find that the Moon is more operative in moist bodies, than in others less participating of such a quality: and so also for the Sun, the heat of it is most vvhre the subject is best capable of it.

Come we also to man, and on him likewise the Heavens have their operation, working distempers both in body and mind, as appeareth *Matth. 4. 17.* vvhre we see, that the people offer the lunatick to be healed of Christ. Nowv this disease of lunacy, is a disease vvhose distemper followeth the course of the Moon, as is evident by the judgment of all Physicians,

But here I would gladly enlarge my self a little further: and then man must be distinguished into two natures: the one material in respect of his body; the other spiritual in respect of his soul: And see nowv howv the Heavens work on him.

1. As for his material part, it cannot be exempted from

from their operations: For it is not only a truth built upon the testimony of Learned Physicians and expert Philosophers, *ammantium corpora a lumine planetarum affici*, that the * bodies of living creatures are affected with the light of the Stars, and that all of them have a great force in the right ordering or disordering of their * temperaments; but even experience seeth how the change of * air changeth us in our bodies, the humors and parts being stirred by celestial influence, especially by the Moon, according to whose changes our bodies daily undergo an alteration.

* *Alii possum
alias affectiones
imprimunt; vel
concuatim scilicet
turbant;ve hu-
moribus, vel se-
datis ac perpur-
gatis, vel fere-
natis ac collu-
stratis spiri-
tibus, vel excita-
tis ac roboris
principum
membrorum*

facilitatis Goclen. Disp. Phys. * *Crales humanorum membrorum sive corporum, esse multa sumunt a materia seu a semine, tamen certum est, eas valde temperari potestate hydemur, & ab eorumdem potius variari & gubernari. Idem ex Placero.* * *Nec vero dubium est, ut solis & luna, sed ceterorum planetarum lumen variare tempestates, & aerem, & corpora nostra afficeret.* Marfi. ex Atilichii Orati. de Arctel.

2. As for the humane soul, how far, or whether not at all to be governed by the Stars, is a matter of great consequence: yet I am confident that we may somewhat clear the doubt by this distinction, *viz.* that the Heavens work not immediately upon the soul, but mediately by the humors and corporeal Organs whereof the souls operation dependeth. For the operation of the soul whilst it is in the body, dependeth meely on material and corporeal Organs, and the elementary matter, whereof these Organs consist, is subject to the operation of the Heavens, even as any other elementary matter: In which regard it may be affirmed that the Heavens in some sort do work upon Mens minds and dispositions. And hereupon it comes to pass that Mars doth sometimes sow the seed of War by his working upon adust choler, and the like. Or the air, being greatly out of tune, causeth not only many sicknesses, but strange disorders of the mind; and they breaking out into act, do many times disturb States, and translate Kingdoms, work unlucky disasters, and the like; of which I spake before in the * second days work.

Chap. 5. Sect.
2. Parag. 4.
Artic. 1. pag.
97, 98.

And now know that if the operation of the Heavens in this, be but so far forth as the soul depends upon the bodily instruments, all that is done to the soul is but an inclination; for there can be no compulsion where the cause is so remote. And therefore let it be observed that it is one thing to cause, another thing to occasion; or one thing to infer a necessity, another thing to give an inclination: The former we cannot aver to be in the power of the Stars, forasmuch as mans will, which is the commandress of his actions, is absolutely free from any compulsion, and not at all subject to any natural necessity or external coaction. Howbeit we cannot deny a certain inclination, because the soul of man is too much * indulgent to the body, by whose motion (as one worthily observeth) it is rather perswaded than commanded. There is therefore no *Chaldean* fate to be feared, nor any necessity to be imposed upon the wills of men; but only an inclination: and this inclination is not caused by an immediate working of the Stars on the intellectual part or mind of man, but occasioned rather mediately, or so far forth as the soul depends on the temperaments and material Organs of the body. In which regard I hope never to be afraid of the signs of Heaven, neither is there cause why I should ever curse my Stars, seeing I know in this the utmost of their power. And as it was said to that Apostle, *My grace is sufficient for thee*; so may every one take it for granted, that there is a second birth which overflows the first. To which purpose one makes this an observation.

* How our
minds do sym-
parhize with
the body, see
in the 2. day
Chap. 5. Sect. 1.
Parag. 4. Artic.
1. *prope finem.*

Iuste age---Sapiens dominabitur astris;

Et manibus summi sunt elementa Dei.

Do godly deeds, so shalt thou rule the Stars;
For then God holds the Elements from Wars.

Or, as another not unfaily also speaketh,

Qui sapit, ille animo fortuna parat omni,

Pravisque potest arte levare malum.

The

The wise, for ev'ry chance doth fit his mind,
And by his art makes coming evils kind.

And in a word, that pithy * saying of Joannes de Indagine shall close this article, *Quæris a me quantum in nobis operantur astra? dico, &c.* Dost thou demand of me how far the Stars work upon us? I say, they do but incline, and so gently, that if we will be ruled by reason, they have no power over us: but we follow our own nature, and be led by sense, they do as much in us as in brute Beasts: and we are no better. For, agunt, non cogunt, is all that may be said.

* Chiron. l. 5.

Artic. 2

It heither, it be not a derogation from the perfection of things created, to grant that the Stars have any kind of power over the actions of men.

AS for the power which the Stars can have in this kind, I have, in the end of the former Article, already declared. Howbeit, that I may leave as few scruples behind me as I can, my purpose is to clear this question a little more. For it hath been the serious perswasion of not a few, that (according to the tenet of Basil, in his *Hexameron*, and some others) the dispositions of men may not be imputed any whit to the Stars, without wrong either to God or them. If (say they) vicious inclinations or evil actions be stirred up by the Stars, then God should be the cause of humane outrages, wickedness, and the like. Or again, if the moderation of our actions dependeth upon the Stars, then many absurdities would follow. For first, those Stars whose aspect is said to be evil, should either of themselves be created evil by their maker; or else it must be that in respect of their own wills they made themselves evil afterward: neither of which may be affirmed. Nor the first, because every thing that God made was very good, *Gen. 1.* Nor the second,

Hypertius Method. Theol. lib. 2.

because seeing the Stars are inanimate and Creatures without life and soul, it were wickedness to attribute a will unto them.

To all which objections and doubts it may be thus answered, viz. that the Stars are no malicious Agents, voluntarily striving to do mischief to the world; but rather such as do harmlessly send down their natural influences and powers into the universe: and had it been that man had not fallen, their inclinations in him had been no inclinations, nor their power in occasioning felt any joy at all: The evil proceeds from the nature of man, who lost his purity and strength of will, in yielding to that which was forbidden: it comes not from the Stars, but from our selves. And so * *Melanchthon* doth in effect answer to that of *Basil*, saying, that we ought in this to consider what excellency of condition our human nature hath lost; and thereby observe how grievous and evil sin is, by which our temperatures are become brutish; and not rashly condemn, or without consideration go throw the Stars out of Heaven. For in this present state of things (*Nec nunc quidem stellas scelorum causas esse*, they be his own words) we say not that the stars are causes of our sin; in regard, that though our inclinations rise from them, yet they are not sole or chief causes of our actions, but our will is the principal cause thereof, which was first created in perfect liberty, by which it both had power to withstand, even as still it ought to refrain all inordinate inclinations. *Non enim fatalem necessitatem constituimus, nec cogi Neronem a stellis, &c.* For we do not constitute fatal necessity, nor affirm that *Nero* was compelled by the stars unto his so great and monstrous sins: but yielding to his lust he willingly entertained those rages which the Devil more and more instigated, and so became worse than his nature (though bad enough) had made him. Hitherto *Melanchthon* to that of *Basil*. Wherefore when we fall into a due consideration of these things, and find that it was the fall of

our

• Prefat. int.
Joh. Schon. de
indivisa Natur.

our first Parents which hath induced this disproportion between our natures and the influences of the Stars, we shall soon see where the fault resteth, namely in our selves. For (as that worthy * Knight observeth) we must consider, that the impression or operation of every Agent is alwayes answerable, not to the power of it self, but to the capacity and aptness of the patient: according to which rule, the Stars produce their effects, even as the subject or matter is, in which their influence doth work. Which is but as I said before, viz. that if Man had not fallen, their inclinations in him had been no inclinations, nor their power in occasioning felt any joy at all. For as the fire hurteth sore eyes, but warmeth cold hands; so the Stars are *formaliter bona*, although *effective* (according to the unapt quality of the subject) they produce a sad effect. Or, to use again the words of the said Author, as we see the Wine, which is healthful and comfortable to some, how quickly it hurteth the constitution of another who hath but a weak brain; so the Sun doth soften and melt wax, but stiffen and make clay hard: yet no man for this affirmeth either the Wine to be drunk, or the Sun to be formally soft, or hard. Wherefore (saith he) by this I may boldly conclude, that although it be confessed, that the Stars are efficient causes of our inclinations; yet there is no consequence to conclude them such themselves as the effects are that they produce: for where the fault resteth, hath been declared. Furthermore, he also proveth against those who say the Stars are tainted in being causes by accident, or occasions many times of ill; he proveth (I say) that every occasion to sin is not to be accounted a provocation to sin, or to be held unlawful: for if this were admitted, we must also pollute God himself with sin, because he hath made fair Women and sweet Wine, by means whereof many Men fall; yet nevertheless none will deny them to be good. for they have their lawful use and right ends.

Where-

Sir Christo-
pher Heyden.

wherefore he doth here also excellently conclude, that as no man will say, that the Physician or his medicines do sin, though, when they restore a spent and diseased body, accidentally they procure lust: no more are the Stars to be accounted bad, or to sin, though in constituting the temperature of our bodies, they may be truly confessed causes by accident, or occasions of sin. The question is therefore resolved, that it is no derogation from the perfection of things created, although we grant the Stars to have a kind of power over the actions of Men; which power, both how and what it is, hath been declared.

Artic. 3.

Of predictions, or whether the signs of Heaven may be understood or searcht into.

They be *David's* words, that *The works of the Lord are great, and sought out of those who have pleasure therein.* And *Moses* here, in testifying that God created the Stars for signs, doth likewise shew that they may be understood; otherwise to us they were no signs at all. Neither do I doubt, but that even *Moses* himself, and *Daniel* likewise, who were * brought up, the one in the learning of the *Egyptians*, the other in the skill of the *Chaldeans*, did understand the signification of these signs. And from whence it was that those Nations had their knowledge, but from *Noah* and *Abraham*, if *Josephus* or *Berosus* may be credited? For concerning *Noah*, do not those Authors story, that soon after the flood he taught the *Armenians* and *Scythians* the secrets of these things? Whereupon they said, that he participated of a divine spirit. So also *Abraham*, that Father of many Nations, did equally instruct the *Chaldeans* and *Egyptians*; although indeed afterwards it was their bold adventure to mix magick, and superstitious vain inventions, with this their lawfull skill.

And

The natures of
the Stars may
be known.

And for us, experience hath travelled in the manifestation of the several qualities belonging to the lamps of Heaven. For as we know the fire to be hot, the water moist, this herb to be cold, that to be dry: so also by observation, it doth manifestly appear that the Sun gives heat, and cherisheth, the Moon moisteneth, *Mars* dryeth; and so of the rest. Or thus, *Saturn* is cold and dry, stirs up and increaseth melancholly. *Jupiter* is temperately hot and moist, works most upon sanguine complexions, stirring up and increasing that humour. *Mars*, through his heat and immoderate driness, stirs up and increaseth choler; and so, often proves an accidental cause of brawlings, Fightings, Wars, and the like, beside such sicknesses as may come by the superabundancy of that humour. *Sol* is moderately hot and dry, greatly cherisheth all kind of Creatures. *Venus* is cold and moist, but it is in a temperate manner; and as for her operation it is seen in most flegmatick complexions. *Mercury* is said to be dry in respect of his own nature, but joyned to any of the other Planets, he puts upon him their natures, and work as they work. Then followeth the Moon, and she is well known to be the Mistress of moisture. Neither can you truly say that it is impossible to find their natures to be either thus or thus: for it is but 30 years that the longest of these did ever spend in his periodical revolution: and but 72 years (as *Tycho* teacheth) can run about whilst the fixed Stars alter one degree in their longitude. Inasmuch that *Saturn* (whose period is but 30 years) cometh twice to the same point of Heaven before the eighth sphere is moved one degree; and *Jupiter* (whose revolution is 12 years) cometh 6 times to the same place; and *Mars* (who accomplisheth his period in little less than two years) meets 36 times with the same Stars in the same place: and as for the Sun, *Venus*, *Mercury*, and the Moon, their meetings with them be oftner. Also it is certain that the great conjunction of *Jupiter* and

Saturn,

Saturn, is once every 20 years ; and *Mars* and *Saturn* visit each other in less than every two years : by means whereof it is no hard thing, or as a thing impossible, to find out the simple natures either of the Planets or fixed Stars.

And from these natures thus known, and their mixtures, and places observed, it is that the effect is foreseen and the judgment given : which, if it be modestly, carefully, deeply, and deliberately done, by one well versed or conversant in these things, doth for the most part happen as is foretold. for the most part, I say, and not alwayes. For as the Physician knoweth that the same portion of either single or mixed simples, will not work upon all bodies alike ; so neither can the like portion and power of qualities stir up, or work always *ad idem*, but may sometimes receive either intention or remission, according to the indisposed aptness of the subject, the Elements or elementary bodies not always admitting of their powers alike ; or when they be over-swayed by more potent and prevailing operations. For universal and particular causes do many times differ, and then the one hinders the operation of the other. As for example, particular causes (as the conjunction of *Venus* and the Moon, or some such like meeting) may promise Rain, snow, or sleet, when universal causes (which are not so easily seen) do often turn it into more fair and warm weather. And so also particular influences may seem to work upon such or such humors, and thereupon make the body subject to this or that sickness, and the mind enclined to this or that kind of action, with many such other like things : howbeit it may so happen that nature may be at this time so abstrusely shut up, that what we see not may overpower and work beyond what we see.

A Man had need therefore have *Argus* his eyes to pierce thoroughly into these causes, and examine without rashness either what may help or what may hinder ;

wrought by the course of nature (for of other things he ought not to judge.) And indeed when there is a divers mixture of qualities, all in a manner of equal portions (as it may sometimes be ;) how hard a thing is it then to find out (without a second judgement) the true event ! for there be many difficulties proceeding from the weakness of our judgements. And for that again which I said before of Natures abstruse kind of working, although I be no Stoick to tie Gods mighty hand to second causes, yet I verily suppose that all things are not beyond the course of nature which seem to be extraordinary ; but even many strange seeming things are wrought by the power of nature ; as sometimes in un-wonted storms, tempests, draughts, strange appearances, or other like accidents. And this again I also think, that one man may see the cause when another cannot : whereupon it comes to pass that there is such diversity of judgements, and thwarting of opinions many times about one and the same thing. Also I might add something (which one or other will be ready to object) concerning the Devils permission in raising unwonted winds, storms, and such like. Or I might speak, not only of Gods power, but of his providence likewise, in disposing his Creatures to manifest their operation rather in one place than in another ; which is an act proceeding from his secret purpose and divine wisdom : as when the Clouds (according to his decree) do disburden themselves of their weary drops rather here than there, or there than here : For, saith he in the 4. chap. of *Amos*, at the 7. verse. *I have caused it to rain upon one City, and it hath not rained upon another, and the City where it hath not rained was barren.* But I shall not need to meddle further : (notwithstanding these difficulties) it is manifest enough that the signs of Heaven may be both sought into, and also in some ample measure understood.

For, it is true that God Almighty having both set and

foreseen the course of nature long before, doth now uphold it by his providence, instrumentally to perform his will. Neither every day doth he make the windows of Heaven to stand open; or the fountains of the great deep to be broken up; nor yet doth he every day make the sun or Moon to stand still, or the shadow to go back, or an Eclipse to be at a quite contrary time, or the Moon again to arise before her usual course; but hath undoubtedly left his works to be sought out of all those who take pleasure therein; and, according to that portion of sound judgment which he hath given to every one, they may understand either more or less of these signs: For as one Star differeth from another in lustre and beauty, so one mans knowledge and better judgment transcends not seldom above the rest. Neither can the Devil every day have it in his commission to go and blow down houses upon the heads of *Jobs* children. Nay (saith one) if these significations are not to be considered, why are they so divinely written and painted in the Heavens? Surely it were impiety altogether to pluck or draw away our minds from the observation of these things. For if the Heavens (as they do) declare the glory of God, or the Firmament shew forth his handy work, we may well believe that they express what God effecteth by them; for otherwise every thing which God created, doth declare his handy work as well as they. Eclipses, Conjunctions, Prodigious sights, Flashings, Comets, New-Stars, what are they but the Oracles of God? by which, changes, alterations, and sundry calamities are threatned to the world: And these, if any one contemn them, what doth he but despise the admonitions of God? Also, how much these observations have profited the Common-wealth, let *Thales* teach us; For they that have *Thales* his skill, may by these signs judge of cheapness, plenty, of dearth and dearness, with other like things, whose knowledge cannot but be profitable to the life of Man.

Only

Only beware that more be not attributed to the Heavens, than to him that made the Heavens: not more to the Servants than to the Master, as they did who made them Gods: or they who trust and rely upon them, not daring to take a journey, or begin a work, or speak with a friend about any business, without a needless consultation: And yet I think that a wise man, not void of Religion, may make very good use of elections agreeing to the *Radix* of the Nativity; when others may err superstitiously, and doat about they know not what.

The signs of heaven must not be abused.

Also know that the observing of these signs must not be mixed with magical spells, as charmers do, when instead of using, they come to abusing of herbs: For as the herbs on the ground were not made to be abused in such damned and forbidden practices; no more were the stars in the sky. Neither ought the observing of these signs to be mixed with characterical practices, diabolical or superstitious divinations, making of images under such or such a constellation, dangerous elections of times, either to procure good or bring down ill from Heaven, as they did who blasphemously maintained that men are long-lived and their souls go to Heaven when *Saturn* is in; or they, who have not quaked to affirm, that when the Moon is joynd with *Jupiter* in the head of the Dragon, whatsoever a man then asketh at the hands of God, he shall receive. Nor were they made to decide horary questions, or fortilegious demands. Neither do I think them to be of any use for the finding of things lost: for this (as that worthy Knight observeth) pertaineth only to that part which judgeth by questions, which neither *Ptolomy*, nor those of best judgment do use; giving us also to understand, that a certain Priest (as is mentioned in the second chapter of *Gregorius decrees*) was suspended from his ministry at the Altar, for practising to recover a theft by his *Astrofabe*. And indeed, to those who pass beyond the bounds of what is

Sir Christopher Heyden in his defence of judicial Astrology, cap. 2 pag. 14.

warrantable, this I urge; that the Stars were never made to justifie the dangerous practices of wicked impostors, nor to give answer to the causeless curiosities of superstitious demanders; for neither in sound Philosophy, nor in the holy word of written verity, can there be any succour found for such devices.

And last of all, whereas I gave notice in my former edition, that the Asterisms or Constellations (by reason of a slow motion which the fixed Stars have, sliding from the equinoctial point about one degree in 72 years) are now removed into other signs of the divided Zodiack, I still affirm it as a truth: howbeit, in that passage of mine, I do willingly retract so much as may give any man occasion to think that therefore the Planets must have their houses, exaltations, triplicities, terms, &c. in other signs than in those of old. For although the Asterisms or Constellations be removed, yet nevertheless those virtues and influences which proceed from the parts or substance of heaven remain as they did: and therefore though the nature of the signs in the Zodiack may in some particulars be either intended or remitted; yet not abolished. And so *Ptolomy* also mentions: for in that example alledged by the Knight, he teacheth us that the Asterism, or image of Scorpio, consisteth of stars that are chiefly martial; yet nevertheless, that the substance of the sign doth moisten and infrigidate: so that the places have their virtues, as well as the stars, and are distinctly to be considered; that thereby the effects may be the better discerned. I was therefore formerly not a little mistaken, to think that the signs had quite lost their old properties; which now I see even *Ptolomy* sheweth cannot be, so long as the substance of heaven remaineth.

*Idem. cap. 18.
pag. 375. 376.
c. 37.*

Object.

But perhaps you will say, I have already proved the substance of the heavens to be fluid, yielding, and as soft as the Air; which will therefore deny the parts of heaven to abide one and the same, but must therein alter every day.

To

Ans.

To which I answer, that if this be so ; yet it is but within the concave of the Firmament, and under the sphere of the fixed stars ; *as manifestly appeareth by the Galaxia, at which height from hence we have little or no reason to think, that the matter of heaven is so soft and fluid as it is, when we descend down lower* For though it be probable enough that the Planets are not inherent and fixed in the matter of heaven, yet that the other stars are, from hence is proved ; for otherwise the substance of this circle could not be found equally moved from the equinoctial points with the stars that were in and about the same in *Ptolomies* time. Higher than which, I conceive *the matter to be yet more solid and firm ; and, as without stars inherent in it, so without any other motion than what is diurnal.* So that from those highest parts of heaven it is that the signs keep their constant properties, and are in themselves still the same, though the Asterisms, or constellations are by the continuance of time moved out of them. For the Asterisms be in the eighth sphere ; but the signs in the ninth.

Paragr. 3.

Of that other Office given to the stars ; viz. that they were appointed to be heavenly clocks, and remarkable measures of Time and the parts thereof.

The Office is laid down in these words, *And let them be for seasons, and for dayes, and for years.*

Artic. 1.

Of Seasons.

IF we take seasons, dayes, and years together, it is no hard thing to see how the whole and parts are joyned. For *Tempus* is the whole ; and *Annus* is *pars temporis* ; and *Dies* is *pars anni*. Not that these are the onely parts

only parts of time ; but because the other do chiefly consist of these. Howbeit, seeing they be laid down severally, it is fit they be explained sunderly. And first of seasons

We need not with the *Jewes* understand here their feasts only, and anniversary days of solemnity ; for then this distinction of seasons had not been in use till after the coming out of *Egypt* : neither is it enough to apply them to the monthly revolution of the Moon, or to the suns changing into a new signe or partition of the Zodiack. But by the name of *Seasons*, we ought rather to be led unto those *quatuor anni Cardines*, or four Quarters of the year, when the reviving Sun crosseth the Equinoctial, and again toucheth upon either Solstice : which last, is (as it were) *solis statio* ; because the dayes seem to stand at a stay, and the two other have their names from equall day and night, because the dayes and nights are then of equall length, Sol cheerfully riding in his gold-like fiery chariot, just in the midst between the Arctick and Antartick Poles. For these were those seasons which God again established for ever, when he renewed that face upon the decayed world, which by the impartial Floud was blemished ; saying, (as it is in Gen. chap. 8. 22) *While the earth remaineth, seed time and harvest, and cold and heat, and summer and winter shall not cease.*

And as for us, we commonly call the times by the names of *Spring*, *Summer*, *Autumn*, and *Winter*.

Spring.

The Spring is a time never unwelcome, nor unwished ; for the weather begins then to appear like a pitiful and truly kind-hearted cherisher ; and Sol ascending, disperseth the superfluous humours, stirreth up the blood in our bodies, and sap in herbs and trees ; clothing the earth with sweet new liveries, and plants with boughs and beauteous branches : nay the harmless choristers of the rebounding woods and echoing groves, do then begin

gin to tune again their surged throats, and ravish revived mortals vvith their melodious airs; bidding good morning to the day, and morrow to the morn. For no sooner can *Aurora* vwake, and peep above the purple verges of the Eastern hills, but cheerfully they chaunt her out of a mirthful cantilene: vv whilst in the mean time sweet-breathing *Zephyrus* plays vvith the vvanton tresses of his late dead, and decayed, but novv again revived mistress; and in comely hue doth beauteous *Flora* prank her self, cheerfully coming forth to meet her kind sweet-causing lover. The pretty lambs are novv at play, vv whilst the vvatchful shepherds sit piping on a hill to please that queen of his heart, his dearest shepherdess, vv whom rusthfully he moveth to grant his suit, and pity his complaint.

Ver prabet flores, saith the Poet; and from * *viresco* it may vvell be said to take the name. For vvill you hear?

*The mealy mountains, which were late unseen,
Change now their coats all into lusty green.
The gardens prank them with their flowry buds;
The meads with grass, with leaves the naked woods,
Sweet Zephyrus begins to buss his Flora,
Sweet-winged singers to salute Aurora;
And wanton Cupid, through this Unvers,
With pleasing wounds, each creatures heart'gins pierce.
"Tea Titans presence doth again revive
"As well things sensible as vegetive.*

But next after Spring we reckon Summer; vv which may vvell be called the mother of plenty, and daughter of bounty. For the earth hath novv her lap full of every kind of grain, her belly is big and ready to be delivered, that she might thereby enrich the vveary labourer, and feed each hungry soul. *Formosa est messibus Eneas*, saith *Ovid*: Summers beauty consisteth in his fruitful fields of corn.

* Or thus, *à vir-
rendo; quia
tunc omnia vi-
rens & florens,
&c.*

Partly out of
Dr. Bar.

Summer.

— For now he crowns his Ceres
 with gilded ears, as yellow as her hair is ;
 Till th' reaper, panting both for heat and pain,
 with crooked razor crops the tufted plain.

In Latine we call it *Aestas* ; which is, because this season derives the name *ab aestu* from the exceeding heat ; and so also doth the English word *Summer* express it. For *Summer* is a word taken out of Germane language ; and in the Germane tongue it is said to be *Sun-mehr*, that is, *plus solis*, or *more sun* than at other times.

Autumn.

And now come to Autumn (for Autumn is the next Quarter) and this is a season which bringeth that to perfection, which the Spring and Summer hath but begun. For now the Barns are full, the presses and fats overflow with an abundance of wine and oyl, and men do now eat the late gathered labours of their hands, and joy in the surpassing plenty that the earth hath brought them. This time is indeed the years very labour ; or (if you will) it is like unto a kind-hearted prodigall, who by little and little gives all away so freely, that in conclusion there is nothing left him. He takes his name therefore from *Autumno*, which signifieth *to make ripe* : for as fast as he can see the fruits ripened, or brought to perfection, he yields them up to others. Or else it is *Autumne*, *a bonorum anni augmentations* ; as some suppose.

Th' earth by degrees her lovely beauty wates,
 Fills others full with her dear delicacies:
 The apron and the osier-basket (both)
 Catch dainty fruits to please each dainty tooth :
 Until at last trees, gardens, meads and all,
 Are naked stript and robbed quite of all.

Winter.

But leaving Autumn, look now at Winter : it is a season which can boast of little. For it lies entrenched with gloomy mists of night, and weeps almost as often as it wants the sun, or finds it hid within the compass of a close cloud. Nay see but with what a palsee pace it cometh.

cometh. He that of late was sweating in the fields, casting off his cloths, and fainting through heat, is now glad to call for more and thicker garments, and not ashamed by the help of fire to mitigate the freezing cold. For Winter is like unto an old man with a grey head and white beard; inasmuch that when hoary-headed *Hyems* doth but brush and shake his hairs, the trees and herbs, (as I may so say) instead of leaves, are periwig'd with Snow: Or if he doth but let his churlish breath blow out upon us, the waters are turned soon into a crystal crust, and without wonder Men are seen to walk upon it. *Et celsis dependet stiria tellus*; yea and the drops hang frozen then at the eaves of the houses.

That therefore of *Ovid* must needs be true, *igne levatur Hyems*: To which let that * *Bacchi massicus humor* be added: For these two will now do wondrous well; according to that of the noble Poet,

*All lasks in sloth; and till this quarters end,
Bacchus, and Vulcan both, must us besfriend.*

This season is called by the Latines *Hyems*, which seemeth to be derived from the Greek word * *ὑεω*, signifying to make moist or wet: And in Hebrew (as some affirm) it is called *Choreph*, coming of the root *Charaph*, which signifieth to reproach or disgrace; because when Winter cometh, the Earth is as it were disgraced and disposed to reproach, in being spoiled of all its pleasant greenness, beauty and splendour.

And in a word to shut up all, thus you may remember these seasons, together with their sundry qualities;

Poma dat Autumnus: Formosa est messibus Aestas:

Ver prabet Flores: Igne levatur Hyems. Ovid.

Autumn gives Fruit: and Corn makes Summer fair:
Spring shews us gayes: Fire helps cold Winters air.

* A cup of good wine.

* Which in Latine is *Plato*.

Artic. 2.

Of Dayes.

A Day is either Artificial or Natural.

* Joh. 11. 9.

1. The Artificial is from Sun-rising to Sun-setting, agreeable to the words of our * Saviour, when he demanded if there were not twelve hours in the day.

Now this kind of day is not alwayes equal, but varies according to the Suns unequal time of rising and setting; and thereupon the hours likewise are to be reckoned according to the dayes proportionable difference: being (even as the dayes) longer in Summer than in Winter.

Also for this artificial day, *Joannes de sacro Bosco* divides it into four quarters; calling the first *rubens*, the second *splendens*, the third *urens*; and the fourth *repens*.

2. And as for that which is a day natural, it evermore containeth the just number of 24 equal hours; in which space of time the sun is carried by the motion of the *Primum Mobile* from any one part of Heaven until it comes to the same point again.

This kind of day amongst divers nations hath divers beginnings.

Midnight.

England, the 17 Provinces, some part of *Germany*, the *Myrians* and *Romans*, account from midnight until midnight; because at that time (as is supposed) our Lord was born; and from hence, as *Verstegan* thinketh, came the word *Seanight*, being a week of dayes and nights, or a *Sennight*.

Sun-rising.

* Which in them, or all us, but the Parenthesis, though it be here inserted, is meant of the artificial day.
* *Lib. 2. c. 79.*

The *Babylonians*, *Persians*, *Norimbergians*, &c. begin at Sun-rising, (and so do our * Lawyers in *England*, ending again at Sun-setting: for he who hath a sum of money to pay on a set day by bond, neither before nor after sun, need tender his money;) These, I say, begin at one sun-rising, accounting until the next; according to that of *Rhiny*, *Babyloni* (saith he) *inter duos solis exortus*.

And

And as for the *Umbrians*, *Arabians*, and *Astronomers*, *Noon*. they reckon from noon until noon again.

But the *Athenians*, *Jews*, *Sylchians*, *Italians*, *Bohemians*, &c. *Evening*. always account from the evening or setting of the Sun; beginning their day when the night approacheth and the sun departeth, being as it were gone to his bed or western rest.

1. They who begin from midnight may seem to have this warrant, viz. that the Sun is then again returning towards our Hemisphere; and (as I said before) midnight is that time when the sun of righteousness arose to the World. For it is supposed that Christ * was born about the middle of the night, whilst the Shepherds were keeping watch over their Flocks. The day therefore beginneth from midnight.

* Which is but an uncertain supposition.

2. Again, they who account from the time of sunrise have this plea, saying that the day is fity to take beginning, when the cause thereof, viz. the Sun, doth first appear and shew himself to the Inhabitants of the World, calling them out unto their daily labours, and summoning them by his beauteous light to arise, and leave their sleepy beds. Therefore when the sun riseth, the day beginneth.

3. Also, they who reckon from noon, suppose that they ought to account from that time, when the sun is in the * most eminent place of Heaven, and hath the greatest number of eyes enlightened by it. And as for Astronomical calculations, this also is the fittest time, because it falleth alwayes at one and the same certainty. The day therefore beginneth from noon.

* Which they suppose to be the place it was first in when it was made.

4. Last of all, they who begin from the setting of the Sun have the truest and strongest plea. For this beginning is agreeable to the whole progress of the Worlds Creation, and best fitteth the divine institution of natural dayes; in which the evening as well as the morning, is pertinent to one and the same day, but make not up the whole day. For the whole day naturally, is that

which we call in Greek *Noxturna*, and is a day of night and day together. And therefore in that phrase of *Moses* (the evening and the morning were the first day) is a *Synecdoche*, by which the beginning of the night and of the day, is put for the whole night and day; as may be seen in *Levit. 23. 32.* where the day is reckoned from even, to even; as being that which naturally and indeed is a true day: although the artificial day be but from the Sun-rising to the setting thereof.

Artic. 3.

Of Years.

A Year, being the chief and most usual part of time, whereby the ages of men, of the world, and other things are principally measured, is the periodical revolution of the Sun through *Mazzaroth*, or the twelve signs of the *Zodiack*, *Job. 38. 32.* For by the Suns unceasing motion, a set number of dayes are as it were wheeled about to terminate one year, and to give each season his due period of time. And in a true measured year, there is not alwayes a set or certain equality: for there is either the great, or the lesser quantity. In the greatest quantity a year hath 365 dayes, 5 hours, 56 minutes, and 33 seconds; And in the least quantity 365 dayes 5 hours, 4 minutes, and 38 seconds.

But if we reckon according to the course of the Moon, then a year is that space of time wherein the Moon, after some conjunctions with the Sun, is again in conjunction with him, not far from that place where she first met him. Or if we reckon by the other Stars, it is then that space of time which the Sun spendeth after his departure from any star, until he returneth the said star again.

And in all these, the Sun hath the chiefest preeminence, is the onely guide, and most remarkable measurer. Whereupon I may not omit what I find observed

by

See more concerning this, in my measuring Reed, chap. 3. & 4.

by Expositors, viz. that a year hath the name in Hebrew from *Shanah*, signifying a *changing*, or *iteration*: which is in regard of the Suns returning, after a years end, to the same point of heaven where it began. And as for the circuit of the Moon, which we commonly term a month, it is derived from another word signifying *to renew*; because in that space the Moon is again renewed: neither is it found in any place of Scripture, that these names are perverted, or the one of them taken to signify the other; but by the one (say they) is meant a year, and by the other a month. See *Gib* on Gen. chap. 5. quest. 2. and *Ainsworth* on Gen. 1. 14.

In Latine the year is called *Annus*, because we may say of it, *revolvitur ut annulus*. For as in a ring the parts touch one another, circularly joyning each to other; so also the year rolleth it self back again by the same steps that ever it went; whereupon it came to pass that the Egyptians, amongst other their hieroglyphicks, used to paint out the year like a snake winding her self as round as a ring, holding her tail in her mouth: *Et sic sua per vestigia volvitur annus*. The name (likewise *inauris*, which it hath from the Greek) is agreeable to the foresaid derivation. And all this concerning natural years.

But as for Political years, they be those which are diversly used by divers Nations in their accounting of times; and they differ in lengths according as the computators fail in skill to regulate them to the motion of the heavens.

That which we now use is the Julian year, instituted by *Julius Caesar*, who, by the help of *Sosigenes* an Egyptian, an expert Mathematician, amended the old Roman year, and brought it to that form in which we now have it, making it to consist of 365 dayes, and 6 hours: which 6 hours are not reckoned every year, but once every fourth year, being then increased to the just length of a day, which is always inserted or put in the next before the 6 Calends of March, causing the said Calends

Calends to be twice repeated: from whence that year is called *Bissextile*, of *bis* and *sex*, twice six; or *Leap year*, because this by adding of a day, from thenceforth the fixed holy dayes, and the like, do as it were skip or leap one day further into the week than they were the former year.

Rather 365
d. 5 h. 48 m.
49 seconds, &
41 thirds.

Viz. 11 m.
20 sec. and 19
thirds, as I ac-
count.

Now the mean length of the Tropical year being defined to have no * more than 365 dayes, 5 hours, and 49 minutes, sheweth that this Julian year is somewhat greater than it should be, exceeding the exactest measure which can be had, by the quantity of eleven minutes or * thereabouts; causing thereby by little and little to be an apparent anticipation of the Equinoctial and Solstitial points: insomuch that the Vernal Equinox, whose place at the first Council of *Nice*, was upon the 21. day of March, is now come to be upon the 10. day of March. The reformation of which error hath been wished for by divers learned men; and in some sort performed by Pope *Gregory* the 13. (using likewise in it the help of *Christopher Clavius*, and some others) who in the year 1582, brought back the Equinoctial day to the same place it was at the said *Nicene Council*, by cutting off 10 dayes in the month of October, writing in the Calender, next after the fourth day the fifteenth day: by means whereof all their months begin ten dayes sooner than ours, as do also all those feasts whose place is fixed and not movable.

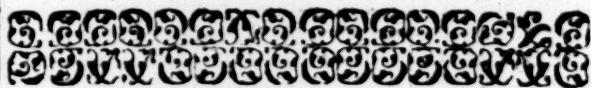
Now in this reformation it was likewise ordered, that the year should consist of 365 dayes, 5 hours, and 49 minutes. And, that the Equinox might not be subject any more to anticipation in 400 years, they thought it fit to omit three Leap years: The first whereof will fall into the year of Christ 1715; the second into the year 1848; and the third into the year 1981, if God suffer the frame of the world to stand so long.

Howbeit

Howbeit in thus doing, although the alteration will be very little, yet the reformation is not exactly true, because there is an inequality of anticipation in the Equinoctial, as the great Masters in Astronomy teach us, being (as they say) in some ages more, and in some less. But seeing (as I said) the alteration will be very little, if ever it come to that, it is fit the Leap-year be then omitted.

And thus am I come now to the end likewise of this fourth dayes work, wherein, after my plain manner, I have discoursed upon every such thing as is pertinent to the work done in it. Let me therefore concluding say with *Moses*.

*The Eve and Morn were now the fourth of dayes,
And God gives to his work deserved praise.*



CHAP. VIII.

Concerning the creatures created in the Fifth day of the world : and they were Fishes, and Fowls.

SECT. I.

Of Fishes, their kinds, properties, &c.

NOW follow the works of the Fifth day ; which when I consider, I cannot but admire the harmonious order which the Almighty observeth in the whole progress of his creating. For as yet the world was but like an empty house without inhabitants ; a stately structure , having no moving creature with life and sense to be living in it ; not so much as a poor flie, a fish, or a bird to taste the goodness of things created and made. But in this and the next day (the building thus framed, and chear provided) he brought as it were his guests to participate of his delicacies, always provided that things inferiour should serve things superiour ; making his best work last, namely Man, unto whom the other works were put in subordination, to shew (me thinks) that the end is the perfection of every thing.

And now see, the first day was for the matter : The second brought it into a better form, stretched out the heavens,

Heavens, and lifted up the waters which are above them. The third did not onely shew the face of the Earth by the gathering together of those waters under Heaven, but also adorned it with Herbs, Trees, and Plants. The fourth beautifies the vaulted roof of the Sparkling Firmament with Sun, Moon, and Stars. In the fifth and sixth he makes all kinds of living Creatures; furnishing first of all the waters and air with their inhabitants; and last of all the earth.

And for those many creatures in the waters and air, their creation was effected in this fifth dayes work; so that every kind of fish, and all kind of birds were now produced. God onely said it, and it was done; as by viewing the Text of *Moses* will appear. For in all his works he spake the word and they were made; he commanded and they were created.

But to proceed. We need divide the whole of this day into no more than two parts; The one of Fishes, the other of Birds.

That of Fishes is the foremost, and therefore the variety of those Creatures would be first admired.

And see how *Moses* ushers them. The greater ones are placed in the forefront: For God (saith he) made great Whales. And then he proceeded to add something concerning the other species of smaller creatures living and moving in the water; saying; And every living creature that moveth, which the waters brought forth abundantly after their kind.

Parents, and other Expositors also, by the word, which is commonly translated great Whales, understand the biggest kind of Sea beasts and monstrous Fishes of the largest greatness. And indeed the epithet great, is not added to the Whale without cause: For the word *Tannin* signifieth a Serpent, Dragon, or a great fish: and the Whale or great fish is the greatest of all living Creatures; as in *Job* 41. 31. In the Earth there is nothing like him. His jaws are likened to doors; ver. 14. his equals

The Whale.

Dr. Will. on Gen.

Alun. Col.
102.

to shields, verſe 15. Out of his noſtrils gorn ſmoke, as out of a ſeethng pot or caldron, verſe 20. he maketh the Sea grow like a pot, verſe 31. And ſo verſe 32. he maketh the Sea grow like a pot, verſe 33. And ſo verſe 34. he maketh the Sea grow like a pot, verſe 35. And ſo verſe 36. he maketh the Sea grow like a pot, verſe 37. And ſo verſe 38. he maketh the Sea grow like a pot, verſe 39. And ſo verſe 40. he maketh the Sea grow like a pot, verſe 41. And ſo verſe 42. he maketh the Sea grow like a pot, verſe 43. And ſo verſe 44. he maketh the Sea grow like a pot, verſe 45. And ſo verſe 46. he maketh the Sea grow like a pot, verſe 47. And ſo verſe 48. he maketh the Sea grow like a pot, verſe 49. And ſo verſe 50. he maketh the Sea grow like a pot, verſe 51. And ſo verſe 52. he maketh the Sea grow like a pot, verſe 53. And ſo verſe 54. he maketh the Sea grow like a pot, verſe 55. And ſo verſe 56. he maketh the Sea grow like a pot, verſe 57. And ſo verſe 58. he maketh the Sea grow like a pot, verſe 59. And ſo verſe 60. he maketh the Sea grow like a pot, verſe 61. And ſo verſe 62. he maketh the Sea grow like a pot, verſe 63. And ſo verſe 64. he maketh the Sea grow like a pot, verſe 65. And ſo verſe 66. he maketh the Sea grow like a pot, verſe 67. And ſo verſe 68. he maketh the Sea grow like a pot, verſe 69. And ſo verſe 70. he maketh the Sea grow like a pot, verſe 71. And ſo verſe 72. he maketh the Sea grow like a pot, verſe 73. And ſo verſe 74. he maketh the Sea grow like a pot, verſe 75. And ſo verſe 76. he maketh the Sea grow like a pot, verſe 77. And ſo verſe 78. he maketh the Sea grow like a pot, verſe 79. And ſo verſe 80. he maketh the Sea grow like a pot, verſe 81. And ſo verſe 82. he maketh the Sea grow like a pot, verſe 83. And ſo verſe 84. he maketh the Sea grow like a pot, verſe 85. And ſo verſe 86. he maketh the Sea grow like a pot, verſe 87. And ſo verſe 88. he maketh the Sea grow like a pot, verſe 89. And ſo verſe 90. he maketh the Sea grow like a pot, verſe 91. And ſo verſe 92. he maketh the Sea grow like a pot, verſe 93. And ſo verſe 94. he maketh the Sea grow like a pot, verſe 95. And ſo verſe 96. he maketh the Sea grow like a pot, verſe 97. And ſo verſe 98. he maketh the Sea grow like a pot, verſe 99. And ſo verſe 100. he maketh the Sea grow like a pot, verſe 101. And ſo verſe 102. he maketh the Sea grow like a pot, verſe 103. And ſo verſe 104. he maketh the Sea grow like a pot, verſe 105. And ſo verſe 106. he maketh the Sea grow like a pot, verſe 107. And ſo verſe 108. he maketh the Sea grow like a pot, verſe 109. And ſo verſe 110. he maketh the Sea grow like a pot, verſe 111. And ſo verſe 112. he maketh the Sea grow like a pot, verſe 113. And ſo verſe 114. he maketh the Sea grow like a pot, verſe 115. And ſo verſe 116. he maketh the Sea grow like a pot, verſe 117. And ſo verſe 118. he maketh the Sea grow like a pot, verſe 119. And ſo verſe 120. he maketh the Sea grow like a pot, verſe 121. And ſo verſe 122. he maketh the Sea grow like a pot, verſe 123. And ſo verſe 124. he maketh the Sea grow like a pot, verſe 125. And ſo verſe 126. he maketh the Sea grow like a pot, verſe 127. And ſo verſe 128. he maketh the Sea grow like a pot, verſe 129. And ſo verſe 130. he maketh the Sea grow like a pot, verſe 131. And ſo verſe 132. he maketh the Sea grow like a pot, verſe 133. And ſo verſe 134. he maketh the Sea grow like a pot, verſe 135. And ſo verſe 136. he maketh the Sea grow like a pot, verſe 137. And ſo verſe 138. he maketh the Sea grow like a pot, verſe 139. And ſo verſe 140. he maketh the Sea grow like a pot, verſe 141. And ſo verſe 142. he maketh the Sea grow like a pot, verſe 143. And ſo verſe 144. he maketh the Sea grow like a pot, verſe 145. And ſo verſe 146. he maketh the Sea grow like a pot, verſe 147. And ſo verſe 148. he maketh the Sea grow like a pot, verſe 149. And ſo verſe 150. he maketh the Sea grow like a pot, verſe 151. And ſo verſe 152. he maketh the Sea grow like a pot, verſe 153. And ſo verſe 154. he maketh the Sea grow like a pot, verſe 155. And ſo verſe 156. he maketh the Sea grow like a pot, verſe 157. And ſo verſe 158. he maketh the Sea grow like a pot, verſe 159. And ſo verſe 160. he maketh the Sea grow like a pot, verſe 161. And ſo verſe 162. he maketh the Sea grow like a pot, verſe 163. And ſo verſe 164. he maketh the Sea grow like a pot, verſe 165. And ſo verſe 166. he maketh the Sea grow like a pot, verſe 167. And ſo verſe 168. he maketh the Sea grow like a pot, verſe 169. And ſo verſe 170. he maketh the Sea grow like a pot, verſe 171. And ſo verſe 172. he maketh the Sea grow like a pot, verſe 173. And ſo verſe 174. he maketh the Sea grow like a pot, verſe 175. And ſo verſe 176. he maketh the Sea grow like a pot, verſe 177. And ſo verſe 178. he maketh the Sea grow like a pot, verſe 179. And ſo verſe 180. he maketh the Sea grow like a pot, verſe 181. And ſo verſe 182. he maketh the Sea grow like a pot, verſe 183. And ſo verſe 184. he maketh the Sea grow like a pot, verſe 185. And ſo verſe 186. he maketh the Sea grow like a pot, verſe 187. And ſo verſe 188. he maketh the Sea grow like a pot, verſe 189. And ſo verſe 190. he maketh the Sea grow like a pot, verſe 191. And ſo verſe 192. he maketh the Sea grow like a pot, verſe 193. And ſo verſe 194. he maketh the Sea grow like a pot, verſe 195. And ſo verſe 196. he maketh the Sea grow like a pot, verſe 197. And ſo verſe 198. he maketh the Sea grow like a pot, verſe 199. And ſo verſe 200. he maketh the Sea grow like a pot, verſe 201. And ſo verſe 202. he maketh the Sea grow like a pot, verſe 203. And ſo verſe 204. he maketh the Sea grow like a pot, verſe 205. And ſo verſe 206. he maketh the Sea grow like a pot, verſe 207. And ſo verſe 208. he maketh the Sea grow like a pot, verſe 209. And ſo verſe 210. he maketh the Sea grow like a pot, verſe 211. And ſo verſe 212. he maketh the Sea grow like a pot, verſe 213. And ſo verſe 214. he maketh the Sea grow like a pot, verſe 215. And ſo verſe 216. he maketh the Sea grow like a pot, verſe 217. And ſo verſe 218. he maketh the Sea grow like a pot, verſe 219. And ſo verſe 220. he maketh the Sea grow like a pot, verſe 221. And ſo verſe 222. he maketh the Sea grow like a pot, verſe 223. And ſo verſe 224. he maketh the Sea grow like a pot, verſe 225. And ſo verſe 226. he maketh the Sea grow like a pot, verſe 227. And ſo verſe 228. he maketh the Sea grow like a pot, verſe 229. And ſo verſe 230. he maketh the Sea grow like a pot, verſe 231. And ſo verſe 232. he maketh the Sea grow like a pot, verſe 233. And ſo verſe 234. he maketh the Sea grow like a pot, verſe 235. And ſo verſe 236. he maketh the Sea grow like a pot, verſe 237. And ſo verſe 238. he maketh the Sea grow like a pot, verſe 239. And ſo verſe 240. he maketh the Sea grow like a pot, verſe 241. And ſo verſe 242. he maketh the Sea grow like a pot, verſe 243. And ſo verſe 244. he maketh the Sea grow like a pot, verſe 245. And ſo verſe 246. he maketh the Sea grow like a pot, verſe 247. And ſo verſe 248. he maketh the Sea grow like a pot, verſe 249. And ſo verſe 250. he maketh the Sea grow like a pot, verſe 251. And ſo verſe 252. he maketh the Sea grow like a pot, verſe 253. And ſo verſe 254. he maketh the Sea grow like a pot, verſe 255. And ſo verſe 256. he maketh the Sea grow like a pot, verſe 257. And ſo verſe 258. he maketh the Sea grow like a pot, verſe 259. And ſo verſe 260. he maketh the Sea grow like a pot, verſe 261. And ſo verſe 262. he maketh the Sea grow like a pot, verſe 263. And ſo verſe 264. he maketh the Sea grow like a pot, verſe 265. And ſo verſe 266. he maketh the Sea grow like a pot, verſe 267. And ſo verſe 268. he maketh the Sea grow like a pot, verſe 269. And ſo verſe 270. he maketh the Sea grow like a pot, verſe 271. And ſo verſe 272. he maketh the Sea grow like a pot, verſe 273. And ſo verſe 274. he maketh the Sea grow like a pot, verſe 275. And ſo verſe 276. he maketh the Sea grow like a pot, verſe 277. And ſo verſe 278. he maketh the Sea grow like a pot, verſe 279. And ſo verſe 280. he maketh the Sea grow like a pot, verſe 281. And ſo verſe 282. he maketh the Sea grow like a pot, verſe 283. And ſo verſe 284. he maketh the Sea grow like a pot, verſe 285. And ſo verſe 286. he maketh the Sea grow like a pot, verſe 287. And ſo verſe 288. he maketh the Sea grow like a pot, verſe 289. And ſo verſe 290. he maketh the Sea grow like a pot, verſe 291. And ſo verſe 292. he maketh the Sea grow like a pot, verſe 293. And ſo verſe 294. he maketh the Sea grow like a pot, verſe 295. And ſo verſe 296. he maketh the Sea grow like a pot, verſe 297. And ſo verſe 298. he maketh the Sea grow like a pot, verſe 299. And ſo verſe 300. he maketh the Sea grow like a pot, verſe 301. And ſo verſe 302. he maketh the Sea grow like a pot, verſe 303. And ſo verſe 304. he maketh the Sea grow like a pot, verſe 305. And ſo verſe 306. he maketh the Sea grow like a pot, verſe 307. And ſo verſe 308. he maketh the Sea grow like a pot, verſe 309. And ſo verſe 310. he maketh the Sea grow like a pot, verſe 311. And ſo verſe 312. he maketh the Sea grow like a pot, verſe 313. And ſo verſe 314. he maketh the Sea grow like a pot, verſe 315. And ſo verſe 316. he maketh the Sea grow like a pot, verſe 317. And ſo verſe 318. he maketh the Sea grow like a pot, verſe 319. And ſo verſe 320. he maketh the Sea grow like a pot, verſe 321. And ſo verſe 322. he maketh the Sea grow like a pot, verſe 323. And ſo verſe 324. he maketh the Sea grow like a pot, verſe 325. And ſo verſe 326. he maketh the Sea grow like a pot, verſe 327. And ſo verſe 328. he maketh the Sea grow like a pot, verſe 329. And ſo verſe 330. he maketh the Sea grow like a pot, verſe 331. And ſo verſe 332. he maketh the Sea grow like a pot, verſe 333. And ſo verſe 334. he maketh the Sea grow like a po

Olaus Mag. 4
21.

Other Authors mention far greater Whales than theſe: And *Olaus Magnus* writeth, that there are many kinds of Whales. For ſome he affirmeth to be rough-skinned and bristled, and theſe contain in length 240 foot, and in breadth 120: others are ſmooth and plain, and theſe are leſs, being taken in the North and Weſtern Ocean. Some again have jaws vvith long and terrible teeth of 12 and 14 feet in length: and the wyv-dog teeth are far longer than the reſt, like unto horns, or the tuſks of a Boar or Elephant. This kind of Whale hath eyes ſo ample and large, that ſometimes 13, 20, or more men may ſit in the compaſs of one eye: and about either eye there be 250 horns * *ad rigidam vel placidam, anteriorem vel poſteriorem motionem & ventilati- onem*; ſerving alſo to defend his eyes, either in a tempeſtuous ſeaſon, or when this Fiſh is affaulted by any other Sea-beaſt. *Phyſeter* or the Whirl-pool-whale hath a large wide mouth, but round: This is a cruel fiſh to the Mariners, and will ſometimes liſt up his head above the ſail-yard, caſting up ſo much water through certain

* *Idem Ibid.*

pipes

pipes in his forehead, thus (as the foresaid Author witnesseth) great and strong Ships are either compelled to sink, or else are exposed to great and manifest danger. Sometimes again by laying his head upon either end of the Ship, he drowns it by his over-loading weight.

Some call the Whirl-pool-whales, *Balana*. But howsoever, *Balana* is reckoned amongst the Whales, and is differing from the *Proffer* or *Physer* which before becalmed the Whirl-pool-whale. *Olaus Magnus* speaking of the *Balana*, saith that it hath no gills, but certain *Fistulae* are in stead thereof, placed in the forepart of the head, and that it is a Fish which shews great love and affection towards her young ones: For when they are little, being *fisher* and *weak*, she takes them into her mouth to secure them from tempestuous surges; and when the tempest is over, she spues them out again into the Sea. A fit emblem this, to teach all sorts of Parents either in Church, Commonwealth, or private families, to provide for, and not destroy those under them; as also to secure them from dangers whensoever they arise.

When this *Balana* and her male-whale accompany together (for they increase by copulation) they scatter much of their seed in the waters, which being found by the Mariners is taken and sold as a precious drug. Some call it *Ambra*, or *Ambergreece*, affirming that it is good *contra guttas*, and against the Palsie and resolution of sinews, if it be used as an ointment: good also to be drunk down against the falling sickness, and swoonding; having also great power of strengthening the inward parts. It is commonly whiten and sometimes counterfeited with the dust of *Dynamis aloes*, and the sweet gum *Sorax*, Sea-moss, and the like; but that which is sophisticated may be easily known, because it will soon be dissolved like wax: whereas that which is without sophistication is more solid and less easie to be melted. Thus affirmeth *Olaus Magnus*: howbeit others write that *Ambergreece* is the spawn of the whale. But *Avicen*

The love of the *Balana* towards her young ones.

An instruction from the *Balana* concerning careful parents.

Ambergreece comes from the Whale.

The virtues of this *Amber*.

How to know whether it be without sophistication.

is perswaded that it grows in the Sea: and some again on-
ly write, that it is cast upon the shore and found cleaving
to stones there; the fume whereof is good against the fal-
ling sicknes, and comfdrable to the brain.

After writeth that many in *Iceland*, of the bones
and ribbs of the biggest Whales, make Potts and spars
for the building of their houses: and how great profit
procedeth from the oyl of the Whale, no man is igno-
rant.

A* *Platy* writeth of a little fish, called *Musculus*, which is a great friend to the Whale: for the Whale, being big would many times, endanger her self between rocks and narrow straits, were it not for this little fish, which swimmer as a guide before her. Whereupon *Dr. Baro* de-

A little fish that swimmeth still, before
Dyeeth himselfe from Rocks, Loons, self and spere:
Mendacious a Christian thus deceiving had about
His Aged Father when his eyes be out:
Still watching him although his right
That set of eyes be from his rest of sight.

Which office of shoulder Fish, may serve as a five-
 mble to teach great ones and superiors, that they ought
 not to condemn their inferiours, for they are not always
 able to be selfs of themselves, that they never stand in
 need of their helps who are but mean and base in the
 eyes of greatness: there may come a time when the mean-
 est person may be some good, and therefore there is no
 time to be lost in being too soon to such a one, how mean
 soever he be: and thus I have said.

Furthermore, as the Whale is befriended by the *Mast-cat*, so also he is as much infested by the * *Ork*; for albeit the *Ork* beliefs that the Whale, yet it is a nimble Fishy, and cruel withal; having sharp teeth, with which, as with an admired weapon, she cruelly wounds the Whale.

Whale in the belly, and then floating into a shallow place, endangers the Whale to follow after.

The *Sword fish* called *Xipha*, is little like to any other Fish; he hath an horrid head like an Owl; a deep mouth as if it were some immense pit; ugly eyes, with a back and a bill like a sword. *The Sword-fish.*

There is also another great fish called *Serra*, or a *Saw-fish*, having an hard copled head with teeth like a saw, standing in manner of a comb upon the head of a cock; with which, the said fish when he wants a prey, cutteth the bottom of Ships, that the Men being cast away, a prey may be provided by feeding on their carcases. *The Saw-fish.*

The *Monoceros*, or a fish with one horn, may truly be called the *Sea-Oni* or *Sea-monster*: it is a Sea-monster having a great horn in his forehead wherewith he is able to pierce through a Ship. Howbeit his cruelty is much hindred, in regard that it hath pleased the Almighty to make him very slow in motion, whereby those who fear him have advantage given them to flee away. *The Unicorn of the sea.*

The *Sea-Elephant* is a Fish which often goes on shore and sleeps in the Rocks, hanging by his two Elephant-like teeth (but both they and his body are far bigger than the Land Elephant) and being espied by men at sea; they call to others on the shore, by whose help, using Nets and Gins and other instruments for that purpose, they together envelope his body, and then suddenly assaulting and awaking him, he leaps with a violent rush as if he would leap into the Sea, but being hampered and entangled by the Fishers Engins, he cannot: he is compelled therefore to yield himself to their mercy; who having killed him, do first skin him, then take out his fat; and of his skin they make thongs, which are sold for a great price, as being very strong and such as will never rot. *Olaus Magnus* commendeth his teeth above the other parts of his body. *Lib. 21.* This Fish thus sleeping and caught suddenly, may be as

The Sea-Elephant.

An embleme
drawn from
the Sea-Ele-
phant, con-
cerning sleep
in sin.

The Croco-
dile.

A dissembler
like unto the
Crocodile.

Dissemblers.

a fit emblem of those men who coming out of their right way, do fall asleep in sin : and at last when death awakes them they think to go to Heaven, or leap into the ways of godliness, but then it is too late : for they are taken as surely and as suddenly, as was that fool in the Gospel, who thought he had goods laid up for many years.

The *Crocodile*, seeing it lives in the waters as well, or rather than on land, I reckon among the fishes. They be commonly found about the river *Nilus* in *Egypt*, and *Ganges* in *India*; and (as *Munster* writeth in his *Cosmography*) it waxeth of a little thing to a very great beast. For his egges are much like unto Goose-egges, but the young which cometh of them taketh increase to 16 or 18 cubits in length. He liveth almost as long as a man, his back is hard and full of scales; he wants a tongue, but hath cruel teeth, two whereof be far more terrible than the other, and much longer : his eyes are said to be very dull in the water, but marvellous quicksighted when he is out of it; his tail extends it self to an ample length, and his bitings are so sharp and cruel that they can never be healed : he hath also short feet and sharp claws or nails, wherewith he helps to catch and dismember either man or beast which he can lay hold on : howbeit, it is said that he flies from those that persecute him, and persecutes those that flie him. *Munst.*

When he hath devoured a man, and eaten up all but the head, he will sit and weep over it, as if he expressed a great portion of sorrow for his cruel fact : but it is nothing so. For when he weeps, it is because his hungry paunch wants such another prey. And from hence the proverb took beginning, viz. *Lacryma Crocodilis; Crocodile tears* : which is then verified, when one weeps cunningly without sorrow, dissembling heaviness out of craftiness, like unto many rich mens heirs, who mourn in their gowns, when they laugh in their sleeves : or like to other dissemblers of the same nature, who have sor-

row

row in their eyes, but joy and craftines in their hearts

It is reported by some * Authors, that the dogs in Egypt use to lap their water running, when they come at Nilus, for fear of the Crocodiles there. Which cannot but be a fit pattern for us in the use of pleasures: for true it is, we may not stand to take a hearty draught, for then delights be dangerous; howbeit we may refresh our selves with them as we go on our way, and may take them, but may not be taken by them: for vvhhen they detain us, and cause us to stand still, then their sweet vvaters have fierce Crocodiles: or if not so, they have strange Tarantula's, vvwhose sting causeth to die laughing.

Porcus Marinus, or the Sea-hog is a strange kind of fish, headed like an hog, vvith teeth and tusks like a boar, and a bending back like a creature begotten among svvine: onely his tail and hinder parts is like to the tail of other fishes, and his four legs are like the legs of a dragon. Such a fish as this vvas taken up in the German ocean, in the year of our Lord 1537, as *Olaus* vvitnesseth in his 21 book.

But in *Bermuda*, or in the Sea about the Summer Islands, they have Sea-hogs of another kind and fashion, nothing so big nor terrible, vvithout legs, good for food, and like to hogs in their heads.

Moreover, *Olaus* again makes mention of another fish, vvwhich they of *Norvegia* call a *Swam-fisk*: and this is the most greedy and gluttonous of all fishes. For it is continually feeding and filling it self, even up to the very mouth, until he can hold no more; and his prey is upon the other small fishes. This likewise is his quality and condition: vvhen he is in fear of any danger, he vvill so vvind up himself and cover his head vvith the skin and substance of his ovvn body, that he is then but like unto a piece of a dead fish, and nothing like himself. Which feat he seldom doth vvithout hurt or damage: For still fearing that there be those about him vvho vvill prey

An embleme from the dog and crocodile.
* *Ælian*, var. hist. lib. 1.

How we ought to use pleasure.

The Sea-hog.

The Swam-fisk.

prey upon him and devour him, he is compelled for lack of meat to feed upon the substance of his own body; choosing rather to be devoured in part, than to be consumed by other more strong and powerful Fishes. These and such like are taken for their fat and oyl, rather than for any thing else which is useful in them.

Covetous cormorants like to the swam fish.

And unto this Fish I cannot but liken all greedy Cormorants and covetous devourers of other Men, being never satished with the ineasures of their oppressions, but lay house to house, and field to field, until there be no more place; as the Prophet *Esaie* speaketh, chap. 5. 8. *For they cover Fields, and take them by violence; and Houses, and take them away, so they oppress a Man and his House, even a Man and his heritage,* Mich. 2. 2. But at the last, when they must give an account for all the things that they have done, then being oppressed by fear, as they oppressed others with cruelty, they would be glad to hide their heads, and rather consume their own selves than be given up to the tormentors; saying, with them in the Revelation, *Let the hills fall upon us, and the mountains cover us from the wrath of him who sits upon the throne.* But it is madness to run from punishment, and not from sin. And therefore to possess all things, is to possess God the possessor of all things. For omission and commission are a wicked mans confusion; and oppressors may verily look to feast the Devil: for while they devour the poor, the Devil devours them.

The Sea-horse.

Equus marinus, the Sea-horse, is most of all seen between Britain and Norway. In the Northern Seas he will sometimes sleep upon a piece of ice as it floateth upon the waters; and seldom do the Fishermen desire to take them in their Voyages to those parts, but when they take few Whales. He hath an head like an Horse, and will sometimes neigh; his feet are cloven like to the feet of a Cow, and he seeks his repast as well on the land as in the Sea: but his hinder parts are like to other fishes, and his tail like theirs. *Ola.* l. 21.

There

There be also *Sea-Cows* and *calves*, so called because they do much resemble such kind of creatures living upon land. The *Sea-Cow* is a great, strong, and fierce monster, bringeth forth young like her self: she is said to be big ten months, and then delivered: sometimes of two: but ofteneft she hath but one, and this follows her up and down whithersoever she goeth. *Olaus* writeth, that the *Sea-Calf* is a great devourer of herrings, insomuch that coming to the side of a net wherein they are hanged, she will eat them up one by one until few are left. And in the Indies the Spaniards use to catch a mighty fish, having large teats and dugs.

The Sea-Cow and Calf.

And those who live at *Bermuda*, or the Summer Islands, are much beholden to that fish which they call the *Turtle*, or the *Tortoise*; she will come on the shore and lay her * egges in the sands, a bushel in the belly of some one; which being taken in time are very good and wholesome meat, and sweet: but if they lie long, the sun will hatch them. They have harping irons to catch these fishes; and being taken, one of them will serve to feast about fifty men at a meal. And indeed those seas afford variety of very good fish, pleasant and dainty, as I have heard them say who lived there.

The Tortoise.

* Concerning which fish, see *Ælian*, also, *Nat. Hist.* l. i.

But above all, the *Mermaid* and *Men-fish* seem to me the most strange fish in the waters. Some have supposed them to be devils or spirits, in regard of their whooping noise that they make. For (as if they had power to raise extraordinary storms and tempests) the winds blow, seas rage, and clouds drop, presently after they seem to call. Questionless natures instinct works in them a quicker insight, and more sudden feeling and foresight of these things, than is in man; which we see even in other creatures upon earth, as in fowls, who feeling the alteration of the air in their feathers and quills, do plainly prognosticate a change of weather before it appeareth to us. And of these, not only the Poets, but * others * *Plin. lib. 9.* also have written. The Poets feign there were three

The Mermaids and Mermen.

Olaus Mag.
lib. 21. cap. 1.
1573. *Nether.*
lib. 3. pag. 116.
Alex. ab Alex.
and lib. 3. c. 8.
Genial. Dis.
rum

A story of a
Sea woman.

Mermaids or *Sirens* : in their upper parts like maidens, and in their lower part fishes ; which dwelling in the sea of *Sicily* would allure Sailers to them, and afterwards devour them ; being first brought asleep with hearkening to their sweet singing. Their names (say they) were *Parthenope*, *Lygia*, and *Leucasia* ; wherefore sometime alluring women are said to be *Sirens*.

Neither can I but admire what I find recorded in the history of the Netherlands, of a Sea woman who was taken up in the straits of a broken dike near to the towns of *Campen* and *Edam*, brought thither by a sea-tempest and high tide, where floating up and down and not finding a passage out again (by reason that the breach was stopped after the flood) was espied by certain women and their servants as they went to milk their kine in the neighbouring pastures, who at the first were afraid of her, but seeing her often they resolved to take her, which they did ; and bringing her home, she suffered her self to be cloathed, fed with bread, milk, and other meats, and would often strive to steal again into the sea, but being carefully watched she could not : moreover she learned to spin, and perform other petty offices of women ; but at the first they cleansed her of the sea-moss which did stick about her. She was brought from *Edam* and kept at *Harlem*, where she would obey her Mistress, and (as she wastought) kneel down with her before the crucifix, never spake, but lived dumb and continued alive (as some say) fifteen years ; then she died. This is credibly reported by the * Author of that history, by the writer of the *Chronicles of Holland*, and in a book called the *Theatre of Cities*. They took her in the year of our Lord 1403.

* Petit trans.
by Ed. Grim-
bon.

* Lib. 9. c. 5.

Moreover * *Pliny* telleth us of *Tritons*, and *Nereides*, which were *Mermen*, or Men-fish of the sea. And in the year 1526 (as the Author of *Du Barlais* his summary reporteth) there was taken in *Norway*, near to a Sea-port called *Elpoch*, a certain fish resembling a mitred

Bisho p,

Bishop, who was kept alive some few dayes after his taking. And (as the said Author writeth) there was one *Ferdinand Alvarez*, Secretary to the store-house of the Indians, who faithfully witnesseth, that he had seen not far off from the Promontory of the Moon, a young Sea-man coming out of the waters, who stole fishes from the fishermen, and eat them raw. Neither is *Olaus Magnus* silent in these things: For in the 21. Book, and first Chapter, having mentioned fishes like to dogs, coves, calves, horses, asses, lions, eagles, dragons, and what not? he also saith, *Sunt & bellua in mari quasi hominis figuram imitantes, lugubres in cantu, ut Nereides: etiam marini homines, toto corpore absoluta similitudine, &c.* that is, There be monsters in the sea as it were imitating the shape of a man, having a dolefull kind of sound or singing, as the Nereides: There be also Sea-men of an absolute proportion in their whole body: these are sometimes seen to climb up the ships in the night times, and suddenly to depress that part upon which they sit; and if they abide long, the whole Ship sinketh. Tez (saith he) this I adde from out the faithful assertions of the Norway fishers, that when such are taken, if they be not presently let go again, there ariseth such a fierce tempest, with an horrid noise of those kind of creatures, and other Sea-monsters there assembled, that a man would think the very heaven were falling, and the vaulted roof of the world running to ruine; insomuch that the fishermen have much ado to escape with their lives: whereupon they confirmed it as a law amongst them, that if any chanced to hang such a fish upon his hook, he should suddenly cut the line and let him go. But these sudden tempests, are very strange, and how they arise with such violent speed, exceeds the bounds of ordinary admiration. Whereupon it is again supposed that these monsters are very devils, and by their power such strange storms are raised. Howbeit for my part I think otherwise, and do much rather affirm that these storms (in my judgment) are

thus raised, namely by the thickening and breaking of the air; which the snorting, rushing, and howling of these beasts, assembled in an innumerable company, causeth. For it is certain, that sounds will break and alter the air (as I have heard it of a city, freed from the plague by the thundering noise of cannons) and also I suppose that the violent rushing of these beasts causeth much water to fly up and thicken the air, and by their howling and snorting under the waters, they do blow up, and as it were attenuate the waves, and make them arise in a thinner substance than at other times; so that nature having all these helps, in an instant workeeth to the amazement of the Mariners, and often to the danger of their lives.

Besides, shall we think that spirits use to feed, and will be so foolish as go and hang themselves on an hook for a bait? They may have occult qualities (as the Loadstone hath) to work strange feats, and yet be neither spirits nor devils: for experience likewise teacheth, that they die either sooner or later after their taking; neither can a spirit have flesh and bones as they have. But to conclude, *Alexander ab Alexandro*, in the third book of his genial dayes, hath written one whole chapter (*viz.* the 8.) concerning these sea-men, affirming that it is no fabulous report to say there be such: he describeth them to be fish in their lower parts, and like to men in their upper parts; affirming moreover, that they be very voracious and desirous of women, loving them, or lusting after them. Whereupon he relates a story of a certain woman who was taken up, and carried to the sea by one of these Mermen, *concupisus causa*, that he might couple himself with her. Which monster the inhabitants took soon after; but refusing meat, he died: and they then made this law, that no woman should adventure to come near the sea, except her husband were with her. This happened in *Epirus*, a countrey of Greece.

In the Kingdom of *Congo*, which lieth in the African
part

part of the world, there is in the river *Zaire*, another kind of hog-fish differing from that already mentioned. It is called *Ambize*, *Angulo*, or *Hog-fish*. It hath as it were two hands, and a tail like a target, which eateth like pork, and whereof they make lard, and hath not the savour or taste of fish. It feedeth on the grass that groweth on the banks of the river, and never goeth out: it hath a mouth like the mozel of an ox; and there be of them that weigh five hundred pound a piece. *Purchas.*

Another
Hog-fish.

In the West sea there is a fish called the *Pontarof*, a cruel monster, that taketh great pleasure to carry away young children, loving to play and sport with them. *Du Bart.*
Summar. ex Oviedo, lib. 13.

The Pontarof

The fishes called *sharks* are most ravenous devourers, and in the waters upon the coasts of *Africa*, they have been seen with six or seven other smaller fishes, guarded with blew and green, attending like serving-men.

The Shark

And omitting many, whether in the new found world, in the Norway seas, or elsewhere, I come now to the *Dolphin*, that king of fishes; than whom there is not any which is swifter, none more charitable to his fellows, and (which is above all the rest) none more loving to man. *Pliny* hath written much of this fish, in his ninth book, at the eighth chapter; and so have others also: affirming that he is not onely sociable and desirous of mans company, but delighted also in sweet and sense-charming musicke.

The Dolphin.

Amongst the fishes that did swiftly throng
To dance the measures of his mournful song,
There was a Dolphin did the best afford,
His nimble motions to the trembling chord.

Du. Bart.

But whether that in the story of *Arion* be true, I am not able to say. Perhaps their censure is none of the worst, who perswade themselves it is a fable which was invented by those who had heard of that famous history of the Prophet *Jonas*: for divers stories of the Bible have been

What may be
thought of a
trians story.

been in this manner changed by the Pagans; as amongst the rest, that of *Senacherib* was very counterfeitedly told by *Herodotus*, when he makes mention of a great company of mice (as he had his relation from the Priests of *Egypt*) who came by night and eat off the Feathers from his arrows. *Herod. lib. 2.* And the Flood of *Deucalion* is related by *Græc*, as if *Noah's* Flood and that were all one. And the Grecians fable, upon the Suns going back in *Hezekiah's* time, that at the * birth of *Hercules* the Sun made a longer night than at other times.

* *Lucial.*

The Dolphin is loving and kind.

A story to the same purpose.

Howbeit this scruple may not take away the love of the Dolphin towards man. For besides those things related in *Pliny*, of a Boy feeding a Dolphin, and carried on his back over the waters to school, with such like things in the said Author, others also have in a manner written to the same purpose. And amongst the rest, *Ælian* tells a story of a Dolphin and a Boy: this Boy being very fair, used with his companions to play by the Sea side, and to wash with them in the water, practising likewise to swim: which being perceived by a Dolphin frequenting that coast, the Dolphin fell into a great liking with this Boy above the rest, and used very familiarly to swim by him side by side: the Boy at the first was fearful of this his unwonted companion; but through custom he and the Dolphin grew so familiar, that they would be friendly Antagonists, and contend together in swimming each by other: insomuch that sometimes the Boy would get upon the Dolphins back, and ride through the watery Territories of *Neptunes* Kingdom, as upon some proud prancing Horse, and the Dolphin at all times would bring him safe to the shore again; of which the people in the adjoining City were eye-witnesses, and that not seldom. At last it chanced that the Boy, not careful how he sat upon the Fishes back, but unadvisedly laying his belly too close, was by the sharp pricks growing there, wounded to death. And now the Dolphin perceiving by the weight of his body, and by the blood

blood which stained the waters, that the Boy was dead, speedily swimmeth with all his force to the land, and there laying him down, for very sorrow dyed by him. In memory whereof, let these few lines be added,

*The Fish would live, but that the Boy must dye:
The dying Boy the living fish torments.
The fish tormented hath no time to try;
But with his grief his life he sadly vents.
Oh where is love or grief so firm as this?
Of such true love and grief most men do misse.*

The *Sea fox* is a fish that hath a long tail and is subtil in his chase, having a strong scent as the Land-Fox hath. He useth to swallow his young into his belly in time of danger (as the *Balena* doth) which some also attribute to the Dolphin. This fish and the *Amia* use to deceive the Fisherman, either by leaping at, or by sucking up so much of his line, that they may be sure to bite off the hook. *Alsam. var. hist. lib. 1.*

The *Cantharus* is an admired pattern of chastity. *Aelian* * speaketh of the ardent love of this *Cantharus*, and saith, that between him and the adulterous *Sargon* is great enmity: for he will fight as courageously for his mate, as *Paris* could fight for *Helena*: being in this the true emblem of a loyal couple, who hate defiled sheets, loving and living constantly together.

Like unto which is the *Muller*; who albeit she be a fearful Fish (as *Pliny* telleth us, *lib. 9. cap. 17.*) and will hide her head for fear; yet seeing her Male taken she followeth after him as far as she can, choosing rather to dye with him, than to be left her self alone.

But the *Sargon* is contrary; for this is an adulterous fish, daily changing mates; and not so content, useth to go on the grassie shore, horning the He-goats who had horns before. For (as * *Aelian* writeth) his lustful love towards the She-goat is so furious, that the fishermen use

The Sea-fox.

*The chaste
Cantharus.*

* *Hist. Animal.
lib. 1. cap. 26.*

The Muller.

The Sargon.

* *Hist. animal.
lib. 1. cap. 23.*

to take these Fishes by covering themselves with a goats skin.

An emblem against
gambles & adultery

And doth not this fish bear a true emblem against Adulterers? Yes, surely doth it. For those who make Horns on other Mens heads, do but make engins to toss themselves to Hell.

Alciat. Em.

*Capra refert scortum, similis fit Sargus amanti,
Qui miser obscuro capitis amore perit.*

The Goat, a Harlot doth resemble well,
The Sargus like unto the lover is,
Who (poor Wretch!) taken, is condemn'd to Hell,
And for his lust depriv'd of heavenly bliss.

Howbeit, a Ten in the hundred, or a Fox-furr'd-clouted-pated Fornicator, who to his Tenants wife is sometimes a lecherous Administrator, cannot see it; neither will such believe that Whores are the Hackneys which Men ride upon into Devils-ditch: for thither do they gallop, like the deceived *Sargus*, caught by the Fisher in the skin of a Goat.

*A fish with
wings.*

It affords a fit
emblem concerning
thruiving.

Hoga is said to be a fish as big as a Mackerel, or (as some say) no bigger than a herring. This Fish hath Wings, which do not so much help her by flying to escape a far greater fish, as endanger her to the merciless cruelty of another Enemy; I mean a certain Sea-foul, which waits but for such an opportunity to devour her. Neither can it fly high or far, or longer than her moistened wings keep wet; nor yet swim fast, having exchanged fins for wings. So (saith one) have I seen men thrive worse that have two Trades, than such as have been skilful or thrifty in one.

The Birds that watch for these fishes, are in feathers as big as Crows, but in flesh little bigger than a sparrow, and are wiser to hunt after others than to save themselves; for they be so tame that they will light upon the hatches of Ships, and suffer themselves to be taken. So have

have I seen some so eager to hurt others, that in the mean time they have run themselves into as great a danger: and well worthy are they of such a reward. For if a treacherous *Haman* provide a Gallows for an harmless *Mordesai*, it is no pity to see the preparer give it himself, or first hanged. Neither will any mourn to see an *Achitophels* craftiness catch himself in his own wilefulness.

Harm watch,
harm catch.

*He that will others guide to Charybs self,
On Scylla's Rock may fearless split himself.*

The *Remora* is a small fish which cleaveth to the bottom of a ship, and doth as strongly as strangely stay it, called therefore by some the *Stop-ship*. Of which there can be no more reason given, than of the Load-stones drawing Iron: neither is it possible to shew the cause of all secrets in nature.

The Remo-
ra.

The properties of the *Crampe* fish are in a manner as strange. For the nature of it is to make the hands of such as touch it benumbed, albeit they touch it with a long pole. *Plin. lib. 32. cap. 1.* He is called in Latin *Torpedo*, which is a name proceeding from his benumbing quality. Some attribute the property of this secret to the air which issueth from the body of the *Torpedo*; supposing it to be so subtil, that passing along by the line and the pole, it affecteth and afflicteth the arms of the Fisherman. Many Authors have written of this fish, as *Plutarch*, *Pliny*, *Ælian*, *Aristotle*, and sundry others. It is said to be of the form and greatness of a Thornback, and (as I said) of a fell and a baneful breath; where-with she doth not only benum the Fishers hand, but also the neighbouring fishes who come near her, that so being as if they were dead, she may the more easily prey upon them; like many a Rich man, slain by his Heir, in hope to possess his Lands.

The Torpedo

The *Barble* is a Fish that will not meddle with the bait, until with her tail she have unhooked it from the hook. This fish carries a wary jealousy always with

The Barble.

Against rash
nets,

it, and will not be deceived by all the baits the fisher can devise. *Plutarch*, in his book *De industria animalium*, setteth down the careful circumspection of this Creature; affirming moreover that if with the beating of her tail she can do no good, she then opening her mouth a little, doth only touch the bait with the tip of her lips, and gnaw it round about. Which is indeed a fit emblem against the rashness of those who will not look before they leap, but are so fool-hardy that without either fear or wit they will undertake strange projects, and believe every fair word; as if the grass had no snakes, or a sugred pill no inward bitterness.

The *Scolopendra*.

* *De animal.*
lib. 13. cap. 23.

The *Scolopendra* is a fish more credulous, but of as strange a property; for as *Pliny* writeth in his ninth book and 43 chapter (to which * *Ælian* is not opposite) this is a fish which refuseth not the bait, but feeling himself taken with the hook casteth out his bowels, and then having loosed the hook swalloweth them again.

An emblem
from this fish,
of swallowing
the baits of sin.

Now this is a fit emblem of all such as have swallowed down the deceitful baits of sin; aptly affording this instruction, that if they will be safe and secure, they must search themselves. For if those baits which we have swallowed, through the seeming good of deceitful sin, if they, I say, be not vomitted up again, there is a hook which will hold us fast, and hale us headlong into misery.

The *Sturgeon*.

An emblem
concerning
thriving.

The *Sturgeon* is a fish whose scales turn backwards, and therefore he swimmeth against the stream. So have I seen some effect their projects by means and wayes, contrary to the common course of men. Nay, some have been so happy as to thrive in respect of themselves, when others could not but judge that the World must needs go backwards with them.

The *Calamary*.

The *Calamary* is sometimes called the *Sea-Clerke*, having as it were a knife and a pen. Some call him the *Ink-horn-fish*, because he hath a black skin like ink, which

which serveth him instead of blood: And of these fishes there be more kinds than one: for the *Cuttle* hath also an inkie juice in stead of blond. You may see three figures of this fish in the fourth book of *Gesners* history of fishes; and **Pliny*, speaking of these fishes, affirmeth that both male and female, when they find themselves so far forth discovered, that if they cannot be hid they must be taken, do then cast this their ink into the water: and so by colouring it, they obscure and darken it: and the water being darkened, they escape.

Lib. 9. c. 19.

*For through the clouds of this black inky night,
They dazling pass the greedy fishers sight.*

The *Purple* is a kind of shell-fish, from whence is gathered a most necessary juice for the dying of silks and such like things. This juice is in the midst of her mouth and jaws, and is to be had in the spring time; for at other times she is barren and wants it. She loseth her life with the loss of this juice, and liveth no longer than this abideth in her: Wherefore *Munster* in his *Cosmography* giveth this counsel to take them alive; adding moreover that she is a great devourer of little shell-fish. She hath (saith he) a little tongue which is alwayes moving; and by this she getteth her prey. Some say that they differ in colour according to their nearness or farness from the Sun: whereupon it comes to pass that in *Africa* they have as it were a violet colour, and at *Tyrus* a redder colour.

The Purple.

Polypus is a fish with many feet, and a round head near unto them; it is a great enemy to the Lobster: and (as *Ælian*, and other Authors write) they can often change their colour, and by that project devour other fishes. Their use and custome is to lie lurking closely by the sides and roots of rocks, changing themselves into the colour of the same thing unto which they cleave: insomuch that they seem as a part of the rock: whither when the foolish fish swim, they fall into danger: for whilest

The Polypus.

Treacherous
persons like to
the Polypus.

they dread nothing, these *Polypodes* suddenly prey upon them and devour them. And indeed this is the constancy and unfeared treachery, which is often found in many men, who will be any thing for their own ends, and nothing without them; sparing none for their own purposes, nor loving any but to effect them. Their heads indeed may well be near their feet; for they prize the trash we trample on, far above the joyes of heaven; else would they never work their fond purposes by deceitfull means, and damage others to help themselves.

The Pearl-
fish.

Amongst the severall sorts of shell-fishes, the glittering *Pearl fish* deserves remembrance; not only in respect of her self, but also in regard of the *Prawn*, another fish and her companion: for between these two there is a most firm league of friendship, much kindness, and such familiarity as cannot but breed admiration in the reader. They have a subtil kind of hunting, which being ended, they divide their prey in loving manner; for seeing they one help the other in the getting of it, they likewise joyn in the equal sharing. And in few words, thus it is: (of which you may read of *Pliny*, *Plutarch*, *Aelian*, &c.) When the *Pearl fish* gapeth wide, she hath a curious glittering within her shell, by which she allureth the small fry to come swimming into her: which when her companion the *Prawn* perceiveth, he gives her a secret touch with one of his prickles; whereupon she shuts her gaping shell, and so incloseth her wished prey: then (as I said) they equally share them out and feed themselves. And thus day by day they get their livings, like a combined knot of cheaters, who have no other trade than the cunning deceit of quaiat cozenage; hooking in the simpler sort with such subtil tricks, that be their purses stuf with either more or less, they know a way to sound the bottom, and send them lighter home; lighter in purse, though heavier in heart.

The Pearl and
the Prawn en-
blems of
cheating.

The Gilt-
head.

The foresaid Authours make mention of the *Gilt-head*,

head or Golden-eye, which helpeth the one the other out of a snare, or from off an hook: for if the snared fish cannot help himself by loosing the snare with his tail, then will his companion put to his mouth, and set him free. Or if the one see the other hanged on a hook, it may be easily observed how his free mate will skip at the line, and never leave till he have broke it off. Which may serve well to teach us, that we ought not to leave our friends in danger, but do the best and utmost that we can to set them free. For a friend is never known till such an occasion shall discover him: at other times we have friends enow.

An emblem of
friendship.

The *Plaice*, if it be well grown, and something thick, it is said to be a passing good fish: It takes the name from *Placco*, so *please*, because it pleaseth the palate.

The *Plaice*.

That fish which we call the *Sole* is a very wholesome fish: And so is the *Whiting*, often entertained in the court:

The *Sole* and
Whiting.

I have heard the *Gurnard* likewise much commended.

Gurnard.

But the *Conger* is hard of substance, and therefore not easie to be digested.

Conger.

And so also is the *Salmon* hard of digestion, although it be a pleasant fish, and very sweet, especially the belly. Whereupon it comes to pass that we do not eat it hot, or presently after it is boiled.

Salmon.

The *Ray*, or *Thornback* is scarce so wholesome as other fish; for Physicians write that it makes men subject to the falling evil; by reason that it is a fish full of superfluous juice. Howbeit the pricks which grow without upon the skin, if they be pulled up by the roots, dried, made into powder, and given fasting in White or Rhenish wine, is an excellent medicine to avoid gravel, and to break the stone.

Thornback.

A medicine against the
stone.

Herring is a fish common and cheap, very dangerous if they be not moderately eaten fresh; for we often see that want of care in the eating them, casteth many in-

Herring.

to fevers. And as for Red Herrings and Red Sprats, they must needs have little wholesomeness or nourishment in them: for, if we may believe the learned, they give as good nourishment to the body, as rusty Bacon.

Eels.

We read that in the River *Ganges* are *Eels* of an extraordinary bigness and length. This fish is never better moved from his nest than in a thunder. They be not bred out of spawn as other fishes, but from the slime and dirt of the earth, as the common opinion goeth: and of all fishes which are toothsome, these are the least wholesome. They breed agues, stop and hurt the voice, procure the stone by reason of their great sliminess, and do also dispose a man to the gowt by breeding such matter as brings pain in the joynts. But know that after *Eels* and *Lampreys*, we should drink good strong wine; and indeed generally with all kinds of fish, which is very wholesome.

The Shad.

The *Shad* is never in season but in the spring; for at other times it is full of bones.

And in the choice of fish this is a rule, that such as have scales and finnes are best: for many scales and finnes betoken the pureness of their substance, as the Physicians tell us.

*The Gogion
or Gudgeon.*

The *Gogion* is a dainty fish, and found as well in the sea as in fresh waters; of which there be sundry sorts: but the best live in sandy places, and about rocks.

The Tench.

The *Tench* is commonly called the Physician of other fishes, for when they be hurt, they heal themselves again by touching the *Tench*, finding the slime of his body to be as a sovereign salve.

*The Perch
and Pike.*

The *Perch* useth to wound others with his sharp fins, whereupon the *Pike* or *Pickereil* dares not devour him. Both these give the body pure nourishment, by reason of their firm and hard substance.

The Trout.

The *Roach*, *Dace*, *Chevine*, *Bream*, *Smelt*, and *Carp*, are good. But the *Trout* is admirable: for this is so found in nourishment,

nourishment, that when we would speak of one who is found indeed, we say that he is as found as a *TROUT*. This is in some kind a foolish fish, and an emblem of one who loves to be flattered: for when he is once in his hold you may take him with your hands by tickling, rubbing, or clawing him under the belly.

I will not say who else is like this fish, for fear I should offend some *Squamiſh* dame: but let not her anger shew her wantonness; and so we are both charmed to hold our peace: she, to save her own credit, and I, to end this present section: wherein I do confess I might have spoken of sundry other fishes, but I had rather send my reader to *Gesner*, and such other ample Authors, than tire him with my relations.

Sect. 2.

Containing the second part of this fifth day; which is of Birds, or Fowl, flying in the open firmament of heaven.

FROM fishes I must come to birds, from the water to the air, and teach my pen to flie a while with the feathered fowls, as before it was swimming with the fearful silent fish.

And now why God hath joyned the creation of fish and fowl together, may without curiosity be observed; to wit, because he would in every work and part thereof continue an harmonious order. Great is the likeness between fish and fowl, whether it be that we consider the natural place wherein either of them live, or that we consider their resemblance in parts, or their manner of motion. For first, the place of fishes is the water; the place of fowls the air: both which are diaphanous, clear, moist, and easie yielding elements. Secondly, that which finnes be to fishes, wings and feathers are to birds. And thirdly, that which swimming is to fishes

in

in the waters, flying is to birds in the air. The one moves himself by his fins, the other by his wings. The one cuts and glideth through the liquid air, the other shoots and darteth through the humid water. The one makes paths in that subtil concave between heaven and earth, the other draws furrows in the ploughed sea: and both tracts are indiscernible; either place again closing and no longer open than their native dwellers flit through their yielding gates.

The Eagle.

And first of all methinks I see the lofty *Eagle*, King of birds, to wing on high in the heavens aspiring air.

And amongst all fowls, the *Eagle* onely can move her self straight upward and downward, perpendicularly, without any collateral declining. *Munster*. This bird is commended for her faithfulness towards other birds in some kind, though sometimes she shew her self cruel. They all stand in awe of her; and when she hath gotten meat she useth to communicate it unto such fowls as do accompany with her: onely this some affirm, that when she hath no more to make distribution of, then she will attach some of her guests, and for lack of food dismember them. Her sight is sharp and quick, insomuch that being in the highest part of the air, she can easily see what falleth on the land, and thereupon the sooner find her prey. It is said that she can gaze upon the Sun and not be blind, and will fight eagerly against the Dragon: for the Dragon greedily coveting the *Eagles* egges, causeth many conflicts to be between them.

The Poets have called her *Joves* bird, and *Jupiters* armour bearer, because she is never hurt with lightning. She is a bird tenderly affected towards her young, insomuch that she will endanger her own body to secure them, bearing her young ones on her back, when she perceiveth them to be assailed with arrows. *Hares*, *Harts*, *Geese* and *Cranes*, are such creatures as this bird useth to prey upon. And for her practice in killing the *Hart*, thus it is: when she laboureth to drive the *Hart* headlong

headlong to ruine, she gathereth (saith *Munster*) much dust as she flieth, and sitting upon the Harts horns, shaketh it into his eyes, and with her wings beateth him about the mouth, until at last the poor Hart is glad to fall fainting to the ground.

The Eagle buildeth her nest upon the Rocks and high places; and the property of the young Eagle is, when she findeth a dead Carcase, first of all to pick out the eye. And so (saith one) do all seducing Hereticks, first put out the right eye of knowledge, that thereby they may the better lead along their seduced Profelites.

And note that although the Eagle be very tender over her young, yet when they be able to fly of themselves, she casteth them out of her nest; because she would have them shift and no longer depend upon their damme. Which is a good example, saith the same Author for domestical discipline; namely, that Parents should not bring up their Children in idleness, but even from their youth to exercise them in honest labour, training them up to some vocation.

Parents ought not to bring up their children in idleness, by an example taken from the Eagle.

Moreover, *Aristotle* writeth, that when the Eagle waxeth old, the upper part of her bill so groweth over and increaseth, that in the end she dieth of famine. But *Augustine* observeth further, that when the Eagle is thus overgrown, she beareth her bill upon a Rock, and so by striking off her combersom part, she recovereth her strength and eating; to which the Psalmist alludeth, Psal. 103. 5 Which maketh thee young and lusty as an Eagle.

The Phoenix, saith *Munster*, is a noble bird, and is but one in the World. *Cornelius Valerius* (whom * *Pliny* Lib. 10. c. 2. mentioneth) doth witness that when *Quintius Plautius* and *Sex. Papinius* were Consuls, one was seen to fly into Egypt. And *Tacitus* also writeth, that when *Lucius Vellius* and *Paulus Fabius* were Consuls, another was likewise seen to fly thither; and yet not another, but the same rather; for there was not above two years

Annal. lib. 6.

* Lib. 38.

* Lib. de emend.
temp. & alio
quodam lib.
cap. 12.

difference in the time of this appearance; *Vitellius* and *Fabius* being Consuls of the City in the year 786, and *Plautius* with *Papinius* in the year 788. * *Dion* was persuaded that this bird thus shewing her self, did betoken the death of *Tiberius*: but our Country man * *Mr. Tyndiat* rather thinketh, that it pointed out the time when *Christ*, that true *Phoenix*, did both die and rise again: and so also thinketh *carson*, in his *Chron. lib. 3.*

This bird (if we may believe what is written) is about the bigness of an Eagle, having a glittering brightness in the feathers of her neck, like unto gold; in other parts purple, with an azured tail, but so as in some places it is of a rose colour: her head hath on it a plume or tuft of feathers. Some say she liveth five hundred years; others give her six hundred and sixty: and, as *Pliny* writeth, this bird hath her settled habitation in *Arabia Felix*. When she waxeth old, she is said to make her a nest of Cassia, with branches of the Frankincense tree, into which she putteth other odours, and so dieth upon them: and then, out of her bones and marrow, there springeth first a little worm, which afterward comes to be a young *Phoenix*.

Howbeit many think that all this is fabulous: for (besides the differing reports which go of this bird) what species or kind of any creature can be rehearsed, whereof there is never but one? and whereas the Lord said to all his creatures, *Increase and multiply*, this benediction should take no place in the *Phoenix* which multiplieth not. And again, seeing all creatures which came into the Ark, came by two and two, the male and female, it must needs follow that the *Phoenix* by this means perished. And so saith one, *As for the Phoenix, I (and not I alone) think it a fable, because it agreeth neither to reason nor likelihood, but plainly disagreeeth to the history of the creation, and of Noahs flood, in both which God made all male and female, and commanded them to encrease and multiply.*

The

The *Griffon* is a creature (if there be any such, for many doubt it) which whether I may reckon amongst the birds or beasts, I cannot tell. Howbeit as I find him marked by * *Elianns*, he is thus described; namely that he is a kind of beast with four feet, keeping most of all in *India*, being as mighty in strength as a *Lion*: he hath wings and crooked talons, black on the back, and in the forepart purple. His wings be somewhat white, his bill and mouth like an *Eagles* bill, his eyes fiery; he is hard to be taken except he be young, he maketh his nest in the high mountains, and fighteth with every kind of beast, saving the *Lion* and *Elephant*: he diggeth up gold in desert places, and giveth repulse to those that come near him. But (as I said) some doubt whether there be any such creature or no: which, for my part, shall be left to every mans liberty.

* See also
Munst Col-
mog.

The *Ostrich*.

The *Ostrich* is compounded as it were of a bird and a beast, and is especially found in *Africa*: he is partly like a *Camel* in his long legs and feet, partly like a *sparrow* in his head and bill, though much greater. Some say his head is covered with small hairs, his eyes be gross and black, his neck is long, and (as I said) his bill is short and sharp like a *Sparrows* bill, and his feet hath as it were a biparty hoof. He is said to exceed the height of a man on *Horseback*; and as for his wings they help him little: howbeit we make much use of his feathers, as is well known. And in one thing he is like the *Woodcock*; for hiding his head he never fears his body. *Job* speaketh that he is forgetful; for when this bird hath laid her egges (which she hides in the sand, and are hatched by the Sun) she forgetteth them, untill the young come forth, and then the males are forced to feed and cherish them. So have I seen many Mothers refusing to nurse their children; and, if they could, would have others likewise bear them: but putting them forth, I believe many perish for want of care and due attendance: for it is not possible that a nurse should have

Job 39. 14. 15.

The *Ostrich*
like *Women*
who will not
nurse their
children.

that tender affection which belongs to another ; and many times, with the nurses milk, the children suck the nurses vices. Necessity therefore, and a prudent choice, should seek out nurses ; as we see it *Gen. 21. 7.* Moreover it is said, that this bird is of such strong digestion that she will eat iron ; and when she seeth that she cannot avoid taking, she casteth stones with her claws against her followers, by which she often hurteth them.

This.

This is a tall strong bird, having a bill of great length ; he doth exceeding much good in destroying Serpents. These birds live in *Egypt*, and the Serpents brought out of *Lybia* thither, by the Southern wind, are killed by them, *Plin. lib. 10. cap. 28.* See also afterwards in the *Stork*.

The Kite.

The *Kite* is well known : she is a fowl which flieth softly until she espy her prey ; she hath quick eyes, will flie high into the air in hot clear weather, and by the turning of her tail she directs her body, even as a great lazy ship is ordered by the helm. *Aristotle* observes that all such fowls as have talons, cannot devour any meat but flesh ; and if any other food be thrust into their mouths they cannot eat it.

Emblems
from the Kite,
concerning
the covetous
grippers of this
world.

Envy shadow-
ed forth.

There is great enmity between the Kite and the Raven, it being an usual thing for the Kite to rob the Raven, as being better in talons and flying. So have I seen the Grippers and Catchpoles of this world destroy one another, the less mighty always devoured by the stronger and more potent. And (methinks) the Kites feeding upon carrion, is a fit emblem of the envious person, who rejoyleth in the fall of others ; for there be many in the world who care not what men fall, so they may rise ; building their own houses out of the blood and ruine of others.

Howbeit, it is observed by *Aristotle*, that the Kite being a ravenous bird, bringeth forth but two young ones at a time ; wherewith nature hath been very provident and careful, to suffer such ravenous fowls to encrease no fa-

ther.

ster. And so (saith one) it is commonly seen in the world, that many rich cormorants (or corn-vorants rather) are either childless and have no children, or else they abound not in many; and yet we can see no end of their scraping, pinching, and oppressing. *There is one alone (saith Solomon) and there is not a second, which hath neither Son nor Brother, and yet there is no end of all his travel.* Eccles. 4.8.

The Raven also is a fowl given to rapacity and devouring of flesh, great of body, slow in flight, sharp in sight, frequenting much the Countries of *Italy, Spain, Egypt,* and about the *Alps*. But this (saith *Munster*) is to be understood of the great kind of Ravens.

This fowl doth greatly above all others covet mens carcases; and (as some think) by a singular instinct and natural gift, it hath understanding of mans death, prefiging it a few dayes before. But whether that be true or not, this is certain, that it haunteth places of battel, with solitary ruines; and like to the young Eagles, it picketh out the eye of a dead Corps first of all, because (as some suppose) he seeth his own image in the clearness of the eye; and so like covereth the like. The Fox and this Bird are very friendly, but both at enmity with the Hawk; that being the chiefest cause of their familiarity. And so I have seen one man love another the better, for hating him whom he abhorreth; or one, like the Fox, will sometimes plot anothers ruine, that the other, like the Raven, may prey upon him.

Munster telleth us that the skin of a Raven well tewed and dressed with the feathers on it, is exceeding good to be laid to a weak and sickly stomach; for it greatly helps digestion.

And again, she is noted for an unkind bird to her young ones, * expelling them out of their nest before their full and compleat time, leaving them to their selves before they are able to shift; and so crying for food, God by his providence provideth for them: whereupon it is said,

The Raven.

An emblem from the Fox and Raven, concerning companions in ill, &c.

Good to help digestion.

* *Plin. l. 10. cap. 12.*

Against such
as want natu-
ral affection.

* *Alian de
animal. lib. 3.
cap. 43.*

Children
should not be
used too
harshly in
their minority.

* Prov. 13. 24.
& ch. 23. 13.

* *Lib. 10. c. 12.*

The eggs of
Ravens are
naught for
big bellied
women.

said, that the young ravens cry unto God: or, which feed-
eth the young ravens that call upon him, Psal. 147. 9. And
in this act, these and the like birds are emblems of
such as want natural affection. And indeed the young
ones afterwards prove as cruel to their dams: for
when they be old, and have their bills overgrown, they
die of famine, not sharpening their bills again, by beat-
ing them on a stone, as the Eagle doth: * neither will
their young ones help them, but rather sometimes set
upon them when they are not able to resist. It is not
good therefore to use children too harshly in their mi-
nority, lest when *Senes* come to be *Pueri* again, they find
as little favour at their hands as they shewed before.
And of this, Parents, Masters, Tutors, and Guardians
should be carefull; learning their lesson from these un-
natural birds. But more I spare to adde; for the well
affected are also well instructed to put a difference be-
tween foolish cockering, and cruel handling: knowing
with * *Solomon*, that where the rod is spared, the child
is spoiled: and with *Paul* confessing likewise, that they
ought not to be bitter to them, lest thereby they provoke
them to wrath, Ephes. 6. 4. Moreover let it be observed
that some Authors affirm there is also the Raven of the
Sea, which is like in proportion to the other Raven, on-
ly differing in colour, as being white. Now *Aristotle*
thinketh that this happeneth by reason of some passi-
on or accident in the generation. Neither (as is
thought) doth the Raven conceive by conjunction of
male and female, but rather by a kind of billing at the
mouth, which * *Pliny* mentioneth as an opinion of the
common people; saying, *Ore eos parere aut eire vul-
gus arbitratnr: ideoque gravidas, si cederint corvinum o-
vum, per os partum reddere*; which is very strange, if it
should be true: and therefore *Aristotle* denieth it: onely
thinking that their billing or kissing is but like unto
that amongst the doves. And as for the English name
Raven, given to this bird, it is so called of *ravensing* and
devinorng:

devouring: In Greek it is *νεκτ.* of *νεκτωρ*, which signifieth *Crociare*, *is croke*; and in Latine, *Corvus*; under which name we comprehend the Crows as well as the Ravens.

The ancient Emperors of *Rome*, and other heathen Princes, had their Soothsayers, and beholders of birds: now these gave great heed to the Ravens, and would diligently look upon their eyes; marking, in time of war, to what part they turned; for they supposed that the Raven did presage which side should perish in battel; and would alwayes therefore have their eye fixed or turned that way, or to that party; as it were shewing her longing desire to be feeding on their carcases. Which is somewhat confirmed by that which *Pliny* writeth of the Ravens flying out of *Athens* and *Peloponnesus*; saying, *Nam cum Medea hospites occisi sunt. omnes à Peloponneso & Attica regione volaverunt. Plin. ibid.* Which flocking to the fight was for their fat prey, as though there had been in them some sense of the present action.

Furthermore, this I find again recorded by *Plin. lib. 10. cap. 43.* that when *Marcus Servilius* and *C. Cestius* were Consuls, there was a solemn funeral of a Raven celebrated at *Rome*, upon the fifth Calends of *April*; and this being so near the time of our Saviours passion as it was, did (as some observe) not unfitly shadow forth the devils funeral, and destruction of his Kingdom among the Gentiles. For as the Raven delighteth in solitary or desert mansions, *Isa. 34. 11.* so doth the devil walk through desert places, as we see it, *Mat. 12. 43.* In which resemblance, he is fitly called the devils bird; and this funeral may as well prove the time of Christs death and burial, as *Dions Phoenix*, appearing about the same time, was used by *Carion*, and Mr *Lydsat*, to shew the year of his resurrection.

The *Pelican* is that bird which * *Pliny* calleth *Onocrotalus*, and is much like the *Svan* in shape and proportion, excepting in the vvideness of his gullet and capa-

city

The Pelican
lib. 10. c. 47.

city of his maw. Of this fowl there be two sorts; one that liveth by the waters, another which is the Pelican of the desert.

This is a melancholly bird, and takes the name of *Pelican*, from the Greek *πελικαν*, so called of *pinning* or *piercing*: which is in regard that by piercing his breast he reviveth his young ones with his own blood, when they are bitten and killed of serpents: or having killed them with his bill, reviveth them again by his blood after three dayes. Or else this name belongs unto him from piercing the shell-fishes and picking out their meat to feed his young. For, according to the testimony of *Aristotle*, the Dams use to catch such fish and swallow them into their stomachs, and when they have there so warmed them that their shells may gape, they do again cast them up; and so pick out their meat in an easie manner. In like sort have I seen those who have done more by policy than others, or they could do by strength, neither is violence always the readiest way: for sometimes art may be more than arms, and gentle usage have power to charm, when rigour helpeth to enrage.

The *Stork* is a famous bird for natural love to his parents, whom he feedeth being old and feeble, as they fed him being young: the Egyptians and the Thessalians so esteemed this bird, that there was a great penalty laid upon any that should kill him. His English name *Stork* comes from *στυγν* in Greek, which is *Amor* in Latine; proceeding from his forenamed kindness and natural love to his Dam; being also humane and loving to mankind, delighting to build in the tops of houses and chimneys, as is usual to be seen in *Germany*; whereby it is evident, that he loveth the society of Man: which (saith one) sheweth their disposition to be unnatural, which do thus the company of men, and of a superstitious mind, retire themselves into desert and solitary places, as *Hermits*, *Anchorites*, and such like. Dr. *Wil.* on *Levit.*

* *Πελικαν*,
comes from
πελιν, *pen*,
for, to beat, or
pierce.

Policy is
better than
Strength.

The *Stork*.

Plin. lib. 10.
cap. 23.

There ought
to be society
amongst men.

And now the reason why he was in such esteem in *Egypt* and *Thessaly*, was for his great service he did them in killing of serpents, and other venemous things. *Pliny* calls him *Ciconia*: and from the *Stork* *this*, men first learned to purge by clyster; for with his bill he conveyeth salt water up into his body below, and so purgeth himself.

From whence men first learned to purge by clyster.

The *Heron*, or *Hermfew* is a fowl that liveth about waters, and yet she doth so abhor rain and tempests, that she seeketh to avoid them by flying on high. She hath her nest in very lofty trees, and sheweth as it were a natural hatred against the *Goffehawk* and other kind of hawks: and so likewise doth the hawk seek her destruction continually. When they fight above in the air, they labour both especially for this one thing, that the one might ascend and be above the other: Now if the hawk getteth the upper place, he overthroweth and vanquisheth the *Heron* with a marvellous earnest flight; but if the *Heron* get above the *Hawk*, then with his dung he defileth the *Hawk*, and so destroyeth him: for his dung is a poyson to the *Hawk*, rotting and putrifying his feathers.

The *Heron*.

This bird is *Avis furibunda*, a furious bird; and so in Latine she is called *Ardea*, of *ardeo*, to burn: chiefly because she is an angry creature, or because she is greatly enflam'd with lust; or else because the dung of this bird doth as it were burn or consume what it toucheth.

Of *Hawks* there be many and several kinds; as the *Falcon*, *Merlin*, *Lanner*, *Tassel*, and sundry others. Howbeit the *Tassels* are supposed to be the males of such birds as live by prey: as the *Tassel* of the *Saker* is called a *Hobbie*, or *Mongrel Hawk*; that of the *sparrow-Hawk*, a *Musker*; that of the *Lanner*, a *Lannaret*; and so of the rest. Now some again distinguish these birds, three several wayes. First by the form and fashion of their body; some being great, as the *Goffehawk*, *Faulcon*, *Ger-*

The *Hawk*.

faulcon, &c. some small, as the *Merlin*, *Musket*, *Sparrowhawk*, *Hobby*, and such others. Secondly, by their game, as some for the *Pheasant*, some for the *Partridge*, some for the *Herrnhaw*, some for the *Duck* and *Mallard*, some for one thing and some for another. Thirdly, they are said to differ in the manner of their following the game; as such know better than my self, who use to keep and manage hawks.

And if hither I may bring other birds of prey, I would joyn to these the *Kite*, *Ringtail*, *Buzzard*, *Bittern*, and such like

Olaus Mag
lib. 19.

Olaus Magnus makes mention of brave generous *Falcons* in the more northern parts of the world, which live upon the spoil of fish, and build their nests upon high mountains; and for all kinds of hawks generally, he accounts them the best which are bred thereabouts: adding moreover that an hawk is fearful of nothing more than a *Peacock*; and as for little infants, he saith that there is none, either bird or beast kept tame at home, which more desireth to hurt them, than the *Apes* and biggest *Hawks*. So have I seen some maintain and cherish those in their own families, perhaps at their own tables, who upon occasion have proved the first to do them mischief; nay, no occasion but fit opportunity is enough for such; as *Brutus* conspired the death of *Cesar*. Or again, I have seen those delight in that, which hath been the readiest way to their houses ruine.

Emblems
from the Ape
and Hawk,
concerning
treachery and
ruine to a
mans house.

The Par-
tridge.

The delicate *Partridge* is a bird well known: she bringeth forth young, which like chickens will run as soon as they can creep out of the shell. They are supposed to live 16 years. They cover the shell of their egges with a soft dust sprinkled over them, and never lodge whereabouts they breed, being very lascivious wanton birds; as *Pliny* tells us, *lib. 10. cap. 33.* And as physicians write, the flesh of this bird is admirable good and wholesome, especially for weak persons: for it comforteth the stomach, makes men lusty, and helps the memory.

Neither

Neither do I marvel (saith one) that Gentlemen be at such cost to keep Hawks, and take such toil to kill Partridges and Pheasants: for besides the pastime and pleasure in hawking, the flesh of these birds is very pleasant, and every mortel as good as gold.

Well may we wish that pleasure to succeed,

Which brings to man such treasure in his need.

The Pheasants are said to come first of all from about the river *Phasis*, which is a famous river in *Chelcos*; where they were found, and from whence they were brought by the *Argonauts*. * *Pliny* therefore calls them *Phasianæ*, and we, Pheasants. This is a Princely dish; but the Mallard is nothing wholesome; according to that of *Scholar Salerni*.

The Pheasant.

* *Lib. 10 c. 8.*

The Mallard.

Good sport it is to see a Mallard kill'd,

But with their flesh your flesh should not be fill'd.

The Capen, Hen, and Chicken, Partridge, Quail,

The Heathcock wholesome is, the Dove the Rail;

The Pheasant, Woodcock, Lark, and Thrush be good,

And all that do not much delight in mud.

Schol. Salern.
translated by
Sir John Har.

But do you not hear sweet *Philomel*? heark how she plays the silent world asleep. This is a bird much addicted to watching; for she sitteth all the night singing upon a bough, with the sharp end of a thorn against her breast to keep her waking. Her very throat is able to ravish the dullest ear, and so much the more is her musick beyond compare, in that from so small a creature such dainty aires are warbled forth. The Latines call her *Philomela*; that is, a bird loving to sing: and what stoick but would love to hear her, and give her thanks for her dainty ditty? Should man strive to marry his industrious layes with hers, he could not be so much rapt with his own as with her delicious notes; for sure she seems to have

The Nightingale.

Ellian. var.
hist. lib. 12.

So many tunes, whose harmony excels

Our voice, our viols, and all musick else.

The pretty Lark chants with a sugred throat, so doth the Black-bird, Linot, the several kinds of Finches, the

Du. Bar.
The Lark,
Blackbird, Li-
not, Finch,

mirthful

Mavis, Red-
breast, Wren,
Thrush and
Starling.

mirthful *Mavis, Redbreast, Wren, Thrush, and Starling.*

*But all is nothing to the Nightingale,
Breathing so sweetly from a breast so small.*

The Owl.

The Owl is another night-bird; her cry is dismal, and she her self rightly stiled, *The hate and scorn of all the birds beside.* And of Owls there be many kinds.

Bubo.

The great Owl in Greek is called *Bui*, of *Bui* clamo, or from the doleful noise which she maketh: and so in Latine it is *Bubo*. This Owl keepeth in desert places, is like in shape to another Owl, hath talons like the Eagle, and is very near as great. He is thought to be an ominous bird, as he was to *Agrippa*, *Jos. Antig. lib. 18. 1.* which must be understood when he is seen in the day; as again in the Council of *Constance* one appeared before Pope *John* the 21. And of all night-birds, those are heard to be the most dismal, *Qui glutunt vocem velus strangulati*; that is, *which throttle out a kind of croaking voice, like one that is strangled, or rattleth in the throat.*

The Night-raven.

And of this sound is that hoarse bird which is commonly called the *Night-raven*, or *Night-Crow*. This also is said to be a kind of owl, and (as Authors witness) will take mice like a cat, and many times catch and destroy Moles. In Greek, some name him *'Eai*: and *'Eai* is *clamo*, to cry or make a noise: but in Latine he is *Nycti-corax*, from *nyx* nox, & *corax* corvus; which in English is the *Night-Crow*, or *Night-Raven*. And as for his colour, it is black like other Crows. See *Gesner de avibus, lib. 3.*

The Screech-Owl.

Again, there is another kind named the *Screech-Owl*, which the Latines understand by the word *Strix*, and the Greeks by the word *scops*. Some (in old time) have fabled strange things of this bird, namely, that it sucked out the blood of Infants lying in their cradles, and with the very eyes of it did effascinate children, or change their favours: whereupon some have used the same word for a witch, a fairy, or hag.

Noctua.

But perhaps that which is most commonly called the *Screech-*

Screech-Owl, is comprehended under one of the kinds of the *Noctua*: or else it may another Screech-owl. For there be four several *Noctua*'s, as *Gesner* writeth. One is of a large bigness, and hath feathers growing on her head like ears. A second is less; white on the throat and breast, speckled on her other parts with a white and muddy colour. A third is also less than the former, and spotted with white and ash-colour. And a fourth is also less than this, of the same colour, inhabiting most of all among rocks, and such like places. The *Noctua* in Latine, in the Greek is called γλαυξ, from the glaring, or colour of her eyes. And as for the Screech Owl, she is known by nothing better than her cry

Also there is *Uula*; and this is that which we call the *Howlet*, or the *Madge*. All the Owls are solitary birds, some dwelling in deserts, some in churches and in ruinous buildings: and this delighteth to sit sleeping in a tree, using there likewise to build her nest; frequenting barns and other such like places for the love of mice, young birds, and little chickens. She is of a grey colour in the most of her body.

Some say that the egges of an Owl broken and put into the cups of a drunkard, or one desirous to follow drinking, will so work with him, that he will suddenly lothe his good liquor, and be displeased with drinking.

The *Bat* may be next; because she useth to fly abroad in the twilight: called therefore *vespertilio* in the Latine, and νυκταλ in Greek. It is a creature between a bird and a beast, for it hath a mouth, teeth, members of generation like a beast, bringeth forth young ones alive; laying no egges, &c. Only it flies in the night, and hath wings like a bird. It is therefore called by some a *Flittermouse*, and is no bird but a winged mouse; for she creeps with her wings, is without feathers, and sketh with a kind of skin, as Bees and Flies do; excepting that the Bats wing hath a far thicker and stronger skin. And this creature thus mungrel-like, cannot (as you know) look very lovely.

The Howlet.

To make a drunkard lothe his liquor.

The Bat.

But

The cuckoe.

But not to keep you longer amongst these birds of night for fear some one or other should affright you, let us now go walk and hear the *Cuckoe* sing. This is a bird so called by reason of his cry; and from thence comes the Greek *.....*, and the Latine *Cuculus*: for the noise which this bird maketh, and the song which she singeth is nothing but *Cuckoe*. This is her note: which note she neither varieth nor changeth until she be wearing away.

Lib. 19.

Olans Magnus calleth her the *Annunciatrix optata latitia*; which is not in respect of her sweet singing, but because when she cometh, then comes the cheertful time of the year, the wished and the welcome spring.

False Friends.

She loseth her voice commonly about the end of *July*, or somewhat before; faltring and doubling in her note when summer is wearing out. So have I seen those who in time of prosperity have been very cheertful, forward and observant of others, attending them with fair words and great shewes of love: but when times change, they also changed; shewing themselves dull and backward, and yet shewing themselves then no other than they were. For these be friends who will abide no winter, but falter now, even as they flattered before, never remembering their former words, how plain and fair soever they seemed;

Jura, fides, ubi nunc? commissaque dextra dextra,

Quique erat in falso plurimus ore Deus?

Whereas a true friend indeed, is only known in time of trouble. For it is a certain rule, *Amicorum idem affectus*, Friends are always like affected: according to that of the Poet.

Ovid. Epig.

Es flecti, & nostros vidisti flentis oculos:

Miscuimus lachrymas mœstus uterque suas.

Thou didst weep, and didst my moist eyes see:

We mixed grief, and wept for thee and ine.

Furthermore, this is a fowl hated of every other bird, because she spoileth their nests, and eats their eggs.

Neither is she very fruitful; for one at a time is enough
for

for her: neither is this one hatched but by some other of a differing kind, for she doth not build any nest, but layeth her egge in the nest of another, which hatcheth it up as her own. Nay it so falleth out, that the poor filly and deceived bird thus beguiled, neglects her nearer brood, as being better pleased with the beauty of the Cuckoes young, until at the last this stranger thus brought forth and being ready to fly, destroy his nurse, and kill her for her kindness. So have I heard of some, no better rewarded for their good entertainment and watchful care. For benefits received are little remembred; and where men sometimes look for love, they are wickedly repayed with hate and harm

Also there appears from hence another embleme. For in the Cuckoe is deciphered the wicked practice of adulterous men, who are not ashamed filthily to defile their neighbours bed: From whence we call them cuckolds, who suffer this wrong, and yet are innocent, whereas indeed the lustful Goat that eateth all, and performes the villany, is the very Cuckold; and the other (poor honest man) wronged not onely in his bed, but in his name, is the harmles patient of what he cannot help. Yet this I will say, that whilst many make *Peacocks* of their wives, they do also make *Woodcocks* (although not *Cuckoes*) of themselves: in which, whom they may thank, it is soon perceived; or whom they may blame, their folly telleth. For signs hanged forth are but the callers in of guests, and baits presented to allure fish: and as nothing sooner invites the thief to cut a purse, than shew of money, so nothing sooner occasions an inticement to dissuality, than the gaudy vestments of an immodest wife; as in this following Epigram may appear,

Adulterous
men like the
Cuckoe.

*A lusty lad that past along Cheapside,
Incontinent a gallant last espied:
Whose tempting breasts, (as to the sale laid out)
Invites: and thus this younger gins to flout.*

Lady

*Lady (quoth he) is this flesh to be sold?
 No, Lord (quoth she) for silver nor for gold:
 But wherefore ask you? and therefore made a stop,
 To buy (quoth he) if not shut up your shop.*

The Swallow.

The *Swallow* is a bird likewise which comes in the Spring, and goeth away again before Winter. Some think that they repair into those countreys where they may rest upon the sides of such warm mountains as lie open to the heat of the shining Sun; and that there they have been found naked, and without their feathers. *Plin.*

But *Olaus Magnus*, in the nineteenth book of his Northern History, writeth otherwise; saying, *Although the writers of many natural things have recorded that the Swallows change their stations, going, when winter cometh, into hotter countreys: yet in the northern waters, Fishermen often times by chance draw up in their nets an abundance of Swallows, hanging together in manner of a conglomerated mass.* Adding moreover, that in the beginning of Autumn they gather themselves together among the canes or reeds; where, providing themselves to sink into the waters, they joyn bill to bill, wing to wing, and foot to foot. *For it is observed (saith he) that at that time having finished their sweet singing, they descend in such a manner; and quietly again, after the beginning of the Spring, they fly out thence, and repair their former nests.*

* And so much the rather, because they are seen in hotter countreys when they be gone from hence, neither can any one shew a cause for every thing in Nature.

This the said Authour affirmeth with much confidence; and doth likewise say, that some young men have taken this mass, and by heating of it, the Swallows have been again dis-joyned, beginning to fly: but they lived not long, because their time should have been a great while more to bring them to perfection. This I confess is strange, but why may it not as * well be, as that of the *Barnacle* or *Brantz-gese*; of which it is certain that they first grow on Trees? See more of them in the third day.

Elisan

Ælian saith that the Swallow is a watchful bird, and sleepeth but by halves and fits (as we say) which is no sound kind of rest. And again, her swiftness in flying is commendable; and as for her diligence and dexterity in building a nest, it deserveth praise: insomuch that some have said, *The Swallow taught men first to build.* *Plutarch. de industriâ animal.*

*Flying she sings, and singing seeketh where
Sh' her house with cunning, not with cost may rear.
Her little beak she loads with brittle straws,
Her wings with water, and with earth her claws,
Whereof she mortar makes, and therewithal
Aptly she builds her semicircle wall.*

Du. Bar.

Next after the swallow, I may come to the Turtle. It is a bird which singeth not, but hath a kind of groaning in stead of singing; true to her mate, of admired chastity, lives long, is absent from us in Winter; and (as some think) being gone, she loseth her feathers; as *Pliny* likewise writeth of the Swallow.

The Turtle.

She is also a very harmless creature, and without gall. Which if Man could frame himself to be, the Serpents wisdom would not hurt him, nor lean-faced envy so-journ with him. But being more wise, than innocent, he makes others groan more at his wrongs, and under his burdens, than he himself either doth or did for his own sins.

Innocency to
be learned
from the Dove.

Columbus, the Dove or Pigeon, may be next, because it is near of nature to the Turtle. These fowls sit upon their eggs by course, and afterwards when they be changed from eggs to young ones, the cock doth feed and foster them. They commonly bring forth two at a brood, the one a cock, the other a hen; and have young about ten times in a year. But some which write of *Egypt* (saith *Ælian*) declare that the Pigeons in that Country breed twelve times in a year.

The Pigeon.

Neither doth the Cock tread the Hen, before he hath courteously saluted her with a kiss. For the Hen will not

B bq

quave

have company with him, until that first debt be duly paid. Some (who write of *India*) report that there be Pigeons in that countrey of a yellow colour. And as for Stock-doves, they differ from Pigeons, because the Pigeon is somewhat bigger, and not altogether so wilde. But the Ring-dove is much greater than any of them, and is thought to live about thirty or forty years.

Furthermore, Pigeons take great delight to sit by the banks of waters and crystal streams: which some think to be, in regard that (like women) they love to behold themselves, as in a mirrour or glasse. And if nature hath taught them that piece of pride, it brings them no small profit: for whilst they thus sit by the water side, they can soon perceive when the Hawk is coming towards them, because his shadow or image will appear in the water; and so being fore-warned, they cannot but be fore-armed, and prepared against such mischief as that devouring bird intendeth to them.

These fowls be naturally very hot and moist, wherefore they be not good for those that be cholerick, or inclined to any fevers: but to them which be phlegmatick and pure melancholy, they are very wholsome, and be easily digested.

The Sparrow

Pliny thinketh so: But I suppose, that although their time be short, yet it may be more than a year.

A history of a Sparrow.

The Sparrow dieth quickly, is very lascivious, and if it be a cock, lives not above a * year; if a hen, it hath a longer time. *Plin.*

They be of a very hot nature; and (as *Geminianus* writeth) will, without harm, sometimes feed on the seeds of Henbane. Their flesh is hard to digest, they stir up *Verms*, especially the cock sparrows. But being boiled in broth, they are restorative, and good for weak or aged persons.

Alian, in the 13 book of his variable history, speaking of *Xenocrates* how he was much enclined to pity, tells a story of a Sparrow which flew into his bosome. As this man (saith he) on a time was sitting in a sundry place, a little chirping Sparrow pursued by an Hawk by whom she

she was almost wearied to death, and fainting in flight, fled into the bosome of *Xenocrater*; which when he saw, he entertained her with delight, and harboured her very tenderly till all dangers were past, and then he gave her free passage to fly whither she would; uttering these words when he cast her up in the air, *Hosti supplicem non prodidi, I have not given one craving succour into the hands of his enemy.* And (indeed) to help the helpless, harbour the houseless, deliver the distressed, and defend the wronged, *ad astra usque tollit*, nay *supra astra* rather; and is a divine practice worth recording, and not unworthy imitation.

The *Peacock* is a bird well known, and much admired for his dainty coloured feathers, which, when he spreads them against the Sun, have a curious lustre, and look like gems. Howbeit his black feet make him ashamed of his fair tail; and therefore when he seeth them (as angry with nature, or grieved for that deformity) he hangeth down his starry plumes, and walketh slowly in a discontented fit of solitary sadness; like one deeply possessed with dull melancholly: from whence it is said, that he hath *a thievish pace, and a hellish voice.*

The Peacock

Neither is he other than a perfect emblem of deep envy. For * some write that his dung is very medicinable and useful to man in many things; which he therefore striveth to hide, and conceal: being indeed the right trick of devilish envy, which is best pleased when he can but exclude the communication of such things as would do good, if they might be had.

An example of envy.

* *Geminian*, lib 4. cap. 43.

The flesh of these fowls, if they be old, is hard of digestion; and so do Physicians likewise write of the *Turkey-Cocks*: but yet the chickens of sixteen of them about half a year old, are good and wholesome.

But I leave this bird, and come to the *Cock*. He it is who is a constant herald to the new-born day, and a diligent watch to the silent night, altering in his note as the day approacheth: for in the dearest time he crows

The Cock

more deeply than when the night is wearing out ; shewing thereby as it were the differing hours, and changing watches.

The Cock
daunterb the
Lion.

It is said that the shrill voice of this commanding fowl, will keep in awe the grim and fierce Lion : so *Pliny* writeth ; but others have said the contrary , because it hath been found that Lions have sometimes strangled Cocks and Hens without fear : and yet perhaps this might be through the antipathy which is between them. For in this it is free for every one to think what he pleaseth.

Cock fights.

Neither is it now any other than a common sport to see such creatures enter battel with their weaponed-wounding heels, and cruel pecking beaks. The original of which (as * *Ælianus* writeth) was after this manner.

Var. hist lib. 3

A story con-
cerning Cock-
fighting.

When the *Athenians* had vanquished the *Persians* in a battel, they made a law , that upon one day in every year, there should, upon the open Theatre, be a Cock-fighting kept to be seen of all ; that observing how they fought and endangered themselves for nothing , others might learn not to be daunted when their country lay at the stake, but fight with courage unreasonable ; because they then fought for something. To which purpose it is recorded, that when *Themistocles* was captain, and spectator of such a Cock-contention, he spake thus to his soldiers : *These two Cocks* (saith he) *endanger themselves as we see to the death, not for their countreys cause, not for the household gods, not for the priviledges of their honourable Ancestors, nor for renown, not for liberty, for wife and children : but only for this, that the one might not over-crow or beat the other. And therefore the hearts of the Athenians ought rather to be stored with stoutness and audacity than thereby they may purchase perpetual remembrance.*

ibid.

Close

Close by his side stands the contrarious Cock,
Crest creatures king, the peasants trusty Clock,
True morning watch, Amosah's trumpet, &c.
The Lions servour, true Astronomer,
Who leaves his bed when Sol begins to rise,
And when sun sets, then to his roost he flies.

Da. Bar.

The Crane.

The Crane is said to be a shifting bird: it hath high legs, a long beak and neck; which finding no food in winter in the Northern Regions, by reason of the great cold, retire themselves into more temperate countreys, and in summer return to the North again.

They fly by companies, feed together, love their own kind, and appoint one to be king over them: and if at any time they fight among themselves, presently they be again reconciled, and keep their society as before. They have a watch, and watch by course; there being in the claw of that Crane whose turn it is to wake, a little stone, that so if by chance this watching bird should fall asleep, the stone falling down might again awake him. *Gemin. ex Aristot.*

Moreover it is said, that when they do alight upon the ground, their king is first, and he also first raiseth himself from the earth and looketh round about him, to see whether any one be coming, that thereby giving warning, they might defend themselves. Which is (indeed) a fit emblem of careful Pastors, good Magistrates, and honest Governors, whose part it is to be at all times vigilant for the good of those over whom they are. Nay, their captain and their watching, doth not onely shew the care which ought to be in Governors, but also the necessity of government is deciphered by it.

Care ought to be in Pastors, Magistrates, and Governors; taught by an example from the Crane.

And again it is reported, that when these birds fly out of Cilicia, over the mountains Taurus, each of them carrieth in his mouth a pebble stone, lest by their chattering they should be seized upon by the Eagles. So have I seen those whose unbridled tongues have but brought them

The tongue hath brought many to mischief.

to

to mischief, and roused the Eagles about their ears: where-
as *in little meddling is much rest; and nothing said is soon a-
mended.* The wise man therefore will wear discretion as
a stone upon the tip of his tongue, lest chattering such
words as he knows not what, he meet with that which he
looks not for.

And now I could speak of the wars which the Cranes
have against the Pygmies, whom *Du Baras* calleth
Dwarfs of the North: but I had rather refer you con-
cerning this to *Pliny*, in the second chapter of his seventh
book. Physicians tell us that the Crane is hard of diges-
tion, and maketh ill juice; but being hanged up a day or
two before he be eaten, he is the more tender, and less un-
wholesome.

The Swan.

The silver *Swan* is a white bird, living in Marshes and
calm rivers; very loving unto his fellow, the male to the
female, whom when he draweth to him, with his long
neck, he doth as it were embrace her: wherefore in
Greek he is called *κύων*, of *κύω*, to embrace, or kiss;
whence also is derived the Latine *Cygnus*. They do one
defend the other, and sit upon their nest by turns, and
equally have care of their young ones when they be
hatched: neither can the he-Swan endure that the she
should company with another; in which they be a per-
fect pattern of chaste, mutual, and matrimonial love.
Howbeit they will sometimes fight very fiercely with their
own kind; and against the Eagles they have cruel bat-
tels, striving not so much to obtain rule, as to revenge
their injuries.

A pattern of
Matrimonial
love.

It is likewise said, that they sometimes sing, but never
more sweetly than when they be dying, and exchanging
life for death: of which some doubt, and approve it as
a thing onely spoken in a poetical manner; yet *Aristotle*
is against them, affirming that many have heard them sing
in the Assyrian sea. To which purpose, *Martial* hath this
epigram,

Dulcis

Dulcia defecta modulatur carmina lingua

Cantator cygnus funeris ipse sui.

Sweet strains he chaunted out with's dying
tongue,

And is the singer of his fun'ral song.

Wherein he is a perfect emblem and pattern to us, that our death ought to be chearful, and life not so dear unto us as it is. And from hence came the Proverb, *Cygnus cantio*, which is but a *lightning against death*.

I formerly made mention of the *Raven*; but beside the *Raven* there described, there is also a *sea-raven* or *Sea-crow*, which is a bird very black unless it be on the breast and belly, upon which they be of an ash-colour. They hunt after fish, and have toothed bills like unto the Reapers sickle, with which they can hold evn an Eel, as slippery as it is. The dung of this bird is of an evil nature, for it will rot both the boughs and barks of such Trees as it falleth upon; and so it is also said that the dung of the *Heron* doth. *Olaus lib 19.*

The said Authour speaketh of another *Sea-crow*, which in seven dayes builds her nest, and in the next seven layes her eggs and brings forth young: and of another which he calleth *Morfex*, or *Humusculus*, so called because she must beat the water with the tail before she can fly. She is black all over, and with the residue of her company useth to build her nest upon the tops of high trees, growing near to such places where be store of Fish, which they catch and devour very greedily: and of these birds there be great store in the more Northern parts of the World. But they have especially two Enemies; the one is a bird which *Olaus* calleth *Platea*; the other is a fish which is called *Raia*.

The *Platea* lies in wait for these *Crows*, and flies at them when they have gotten their prey, and never leaves biting them upon their heads, until she cause them to leave it. This bird useth to swallow down an abundance of whole cockles in her belly, and there having warm-

Death ought
to be chearful.

The Sea-
crow.

A bird cal-
led *Platea*.

Policy is bet-
ter than
Strength.

warmed them, she casts them up, and then their shells gaping, like unto the roasted oyster, give her leave to take out their meat and eat it; which sheweth (as I said once before, in the description of another bird) that policy is better than strength, and in the hardest matters prevailleth best.

The Ray kills
the Sea crows.

The other Enemy is not a bird, but that fish which we call the *Ray*. For whilst the devouring Crows be diving under water to catch their prey, they themselves are caught by this Fish, and devoured suddenly, lest otherwise they might want a revenger of their rapacity even where and whilst they do wrong. Howbeit this *Ray* is a loving Fish to man: for swimming in the waters, and being greedily pursued by the devouring Sea-dogs, the *Ray* defends him, and will not leave him until he be out of danger.

There be also an abundance of other birds in those parts of strange properties, and name scarce known; of which, they who have a desire, may read more in *Olaus Magnus*, the nineteenth book of his Northern History.

The Plover.

The *Plover* is *Avis pluvialis*, and a fowl well known: howbeit some have thought that they live only by the wind, and eat nothing at all; but they deceive themselves in this opinion, as experience teacheth. For they have not onely been seen to feed, but taken also with meat in their corps. And that which first occasioned this error, was their quick digestion; for they commonly eat things that are easily digested, and soon consumed. *Plover* * saith one, is thought to be a dainty dish and right wholesome, yet it is slow of digestion, nourisheth little, and increaseth melancholly. The like he affirmeth of the *Lapwing*; but the *Teal* he yieldeth to be somewhat better.

* See the ha-
ven of health,
pag 1, 6.

Moreover, the *Plover* flying high doth signifie rain: which bird *Olaus* describeth after this manner: There is, saith he, a bird which we call *Avis pluvialis*, about the big-

bigness of a Partridge, supposed to live by nothing but air, because her belly useth to be empty of meat; and yet she is very fat: her feathers are diversly coloured, some with white, some with black, and some with saffron colour; and this bird the fowlers thus hunt, by throwing up into the air short heavy clubs; for by so doing they cause her to descend, and being descended, they catch her in their nets, laid ready for the same purpose.

Upupa, or the *Lapwing* is a bastard-plover. This is a querulous bird, flying up and down lapping and clapping with her wings: from whence she is called a *Lapwing*; and in Latine she is named *Upupa*, from *pu, pu* which is the cry that she maketh; thereby securing her nest and young ones from our finding. For by this practice she will draw us away from them as far as she can. The combor crest upon her head, gave *Ovid* a fit occasion to feign a Tale of a * King turned into a Lapwing, whose crown doth yet appear upon the head of this bird.

The Lapwing

The Lapwings fight often with the Swallow, Jackdaws and Pies, and by their much crying do signifie rain. And as for their young, being as it were half hatched, they will run from their nests with the shells on their heads.

The *osprey* is a ravenous bird which hovereth over pools to take fish; having one claw foot, and another flat.

The Osprey.

Galgulus Iternus, or the *Charadriion*, is a bird unto which some ascribe this strange property, viz. that if any who hath the Jaundise look upon him, and the bird on him, the bird then taketh the disease and dieth, but the man is cured, made sound, and liveth. Such are we, by nature sick unto death, but by Christ (who died for our sins and rose again for our justification) we are cured, made sound, and live.

The Charadriion.

An emblem from the cure done by this bird, concerning our cure wrought by Christ.

Porphyrus.

Porphyrus is a bird drinking, as though he did bite the water; his bill and legs are red and long.

The King-fisher.

Halcyon, or the *King-fisher* is a bird which maketh her nest in winter upon the sea, during which time there is a calm and quiet season: whereupon we call those dayes *Halcyon Dayes*, wherein we have peace, rest, and quietness. They live also about rivers, lay five egges, and (as *Pliny* witnesseth) are seven dayes in preparing their nests, and in the other seven they bring forth their young.

* *Lib. 10. c. 12.*

Ovid Met. lib. 11.

The Poets have a fiction of *Alcyon* and *Ceyx*, who were turned into these Birds: For when *Alcyon* heard that her husband *Ceyx* was drowned in his way home from a certain voyage, she cast her self into the Sea, and then for the pity which the gods had of them, they were both transformed into *Halcyons*. But without any fiction, this we are sure of, that it is a strange bird, and as it were natures dearest darling; seeing that in favour of her nests and young, the waters leave their raging, the winds their blowing, tempests have forgot to rise, and dayes appear with quiet calms.

Du. Bart.

The Pirate (dwelling always in his bark)
Her building dayes desiredly doth mark;
And the rich merchant resolutely ventures,
So soon as th' Halcyon in her brood-bed enters.
For so long as her quiet couch she keeps,
*The * boylng sea exceeding calmy sleeps*

* He names onely the Sicilian sea.

This is a bird which feedeth upon fish, and by diving after them, catcheth them; as is not seldom seen.

Bermuda birds.

In the Summer Islands, amongst other things, we hear of variety of fowls. For upon the discovery of those parts by Sir *George Summers*, and Sir *Thomas Gates*, an abundance of fowl were taken. They took a thousand of one sort in two or three hours, being as big as a Pigeon, and laying speckled egges upon the sand, as big as hens egges, which they would daily come and lay, although men sat down amongst them. *Purch.*

There

There also is another fowl that liveth in holes like Cony-holes; their egges like to hen-egges, both in quantity and quality. And other birds were there found so tame and gentle, that whistling to them, they would come and gaze on you, while with your stick you might kill them. *Idem.*

But in *asia*, in one of the *Molucco* Islands named *Tidore*, is a strange bird which they call *Mannucos*, or birds of Paradise: they have less flesh than the body maketh shew of; their legs be in length about an hand breadth, their head small, their bill long, their feathers fair, and of a singular beauteous colour: Authors write that they have no wings, neither do they fly, but are born up in the air by the subtilty of their plumes, and lightness of their body. They are never seen (saith my Author) upon the ground but dead, neither do they corrupt or rot in any sort. There is no man knoweth from whence they issue, neither where they breed up their young ones, nor whereupon they nourish themselves. The Islanders believe that they make their nests in Paradise, and tell many fables thereupon; which perswasion the *Moors* first put into their heads. They call them *Mannucodita*, or holy birds, and have them in religious account; insomuch that some of them have believed that souls are immortal, by the consideration of such a bird. And as for the sustenance which keeps this fowl alive, although it be hard to say upon what it is maintained, I do easily think that we may listen to them, who suppose that they nourish themselves, and maintain their lives by the dew that falleth, and the flowers of the spices. See *Gesner de Avibus, lib. 3.*

Some have written that it is a bird without legs: but *Mr. Purchas* in two several places alledgeth the testimony of one * *Pigafetta*, who witnesseth that it is a bird having two feet as well as other birds; but as soon as they be taken, they are cut off, with a great part of their body, whereof a little is left with the head and neck, which

Birds of Paradise.

• who also writeth that he saw a Tree in the East-Indies, the leaves of which changed themselves into birds, who lived but eight hours. *Du. Harl. Sum.* And of birds in the *Moluccos* as big as Hens, with horns in stead of crests: They lay their egges in the sand, and there they be hatched.

being hardened and dried in the Sun, seem to be so bred. And other Ancestors witness that there was one of them sold to the Emperour in the year 1605, which had legs on it.

Cardan likewise mentions this bird ; but seeing his report is differing from our modern writers and travellers, I forbear to rehearse it : Howbeit they who read *Gesner* shall see it in his third book of birds, together with a figure of this fowl.

The Cucnios.

But out of *Asia* look yet once again into *America*, and then you shall see as strange a winged creature as any we have heard of yet ; I mean the New Spains *Cucnios*, which whether I may call it a bird, or beetle, I cannot tell. He is very little, and of the thickness of a man's thumb, or thereabouts ; but amongst the works of God, he is a most admirable wonder. For he carrieth four lights with him, which * shine in the night ; two in the seat of his eyes, and two which he sheweth when he openeth his wings. And as for his wings, he hath two very strong and hard, under which he hath two other little wings very thin, which appear not but when he extendeth his other to flie. The *Indians* use them in stead of candles, and (saith my * Author) if a man tie five or six of them together, they yield as much light as a torch.

And loe, just now, as if it were by the light of this creature, me thinks I see the painful and industrious *Bees* fly flocking to their hives.

These be those winged workmen, which whether their profit or admiration be greater, I am scarce able to say. For they do not onely busily bestir themselves to gather honey, which is very useful in the life of man ; but they do work it up in most strange manner, and keep it in their waxen cells so rarely built, that all the men which the world affords are not able to do the like. Neither is this all ; for they live so, as they may be true patterns of needful Government, keeping themselves under the subjection of a king, and order of laws. They may well be
likewise

* Like unto which are those birds mentioned by *Pliny* and *Solinus*, *Plin. lib. 10. cap. 47.*

* See *Purch.* and *Dr. Barr.* Summary, p. 240.

Bees.

likewise said to have the sovereignty and preheminnence above all others of this kind, because the rest come far short of their perfections.

It is a creature having four wings, and bloodless, the only crafts-master of honey. Their eyes are somewhat of a horny substance, hid deep in their bodies, as is also their sting; when which they lose they die:

— *Vitam in vulnere ponunt;*

because their sting and entrails come away together. They want neither tongue nor teeth; and out of their short feet or stamps, there grow forth as it were two fingers, wherein they carry a little stone, for the poyting their bodies in stormy, windy, tempestuous weather; it being a great means to keep them from blowing away and losing their home.

Neither can it be denied, but that by nature they are much different: for some (saith * one) are more domestical and tame, and others again are altogether wilde, uplandish and agrestial. Those former are much delighted with the familiar friendship, custome, and company of men; but the other can in no wise brook or endure them, and therefore they keep their trade of honey-making in old trees, caves, and such like other holes.

As for their breathing, I do not believe it; howbeit they may pant, move, or stir, (as the heart or brain doth) and by transpiration be comforted and made lively: for they be much refreshed by the air which passeth through their divided places, insomuch that they alwayes use great diligence and care to preserve them from being stopped; for as soon as they be stopped in those passages, they die; as we see if at any time they chance to fall into oyl, or the like liquor, which may stop their pores.

Some make three kings among them, differing in colour, as black, red, and divers-coloured; but perhaps there is rather one king in a company, the other like may be esteemed as vice-roys. In their breeding they

* Topal in his
Hist. of Ser-
pents.

they actually couple together, after which they lay egges, sitting upon them for the space of five and forty dayes; then do they hatch their young ones, which at the first come forth much like to white worms, except the king, who onely is said to be hatched with wings. And sometimes there is a kind of Bee bred out of putrefaction, as Authors write. A rotten Horse breedeth Wasps; a dead calf Bees, if the West wind blow; from an Als proceed Humble-bees; of a Mule, Hornets, &c. And whether the Bees, in *Sampsons* dead Lion, were bred any where else, no man knoweth.

They have a Commonweal, and are governed by a king, as before is mentioned: and him they reverence and honour, being always ready to do according to his pleasure. He is of body far bigger than the hony Bees, hath shorter wings, but a brighter and more goodly head than they. There is alwayes excellent discipline, and very good government among them: for at the mouthes of the hives there be some which stand like warders placed at the gates of a castle, to see who goes in and out. And having rested quietly all night, there is one which with a humming noise doth call them up, whereupon they prepare to fly abroad about their business: but if they make no hast to look out, or go not far from home, it is a certain sign of no good weather. When they be busie at their work, the bees which go abroad return home with laden thighs, full of the substance of the flowers; and this especially is said to be an office of the younger Bees: for some of the other do onely carry water; and the elder ones remaining at home, do busily lay up, carefully dispose, and curiously dress what the other bring in. Such as be sluggish among them, are diligently observed, and bitterly punished: and as for the drones, they are supposed by some to be the female Bees, which they drive out of their hives when breeding time is past; and therefore they do ill who use to kill the drones before. Others again think that the female Bee is no drone, but

but rather bred among the Bees, and being idle, and unapt for work, is driven away either in the busiest time, or time of death. And yet perhaps it may be the female, which having done as much as can be naturally required from her, must not think much to be driven away, but leave her room to a succeeding generation.

I said before, that in the morning there is one among them which calls them up, and so in like manner at night they leave their buzzing by degrees, at last hearing as it were a proclamation through their hive to go to rest; and so the watch being appointed, and all things set in order, they all make themselves ready to go to bed. So long as the king liveth, so long the whole swarm enjoyeth the benefit of peace; but he being dead, there is great disorder. The king keepeth his court by himself, in the highest room and largest part of the whole palace, his lodging being very curiously made. And if at any time any of them chance to die, they be carried out of the hive, as it were upon the shoulders of the other Bees, who will suffer nothing in their houses which may pollute them: but if they be only sick, then have they a medicinal aliment of honey, drawn from annise, saffron, and hyacinths, by which they are cured. *Topsel.*

And when they be ready to swarm, they dare not take their flight until their king lead their way; unto whose side they strive to fly, as near as they can. Some say, if their king be such as renders the good of the other Bees, he goes but seldom abroad; and stragling often from home, they will rid themselves of him. But when he dies through age, they carry him forth in solemn manner, and behave themselves as at some sad funeral. Neither is he so tied to his home but that he may sometimes go abroad to refresh his aged body, whom they accompany in a sweet obediential manner; and if it chance that he grow weary and faint by the way, they bear him back again upon their wings, and with great commiseration pity his decayed estate. Moreover they

Topsell. Serp.

will

will not suffer a dead Bee to be in their hives, but carry him forth as to his burial, lest he should corrupt their pure and cleanly decked dwellings. Bees being burned to ashes, and a Lie made therewith, helps a bald head being washed with it.

Vasps.
* But sometimes in charred houses.

Vespa, the *wasp*, is an angry creature: they make their nests most * commonly in the ground; their combs be round, much after the fashion of a broad toadstool; and their cells are diversly fashioned. They be very tenderly affected to their females when they are with young, and will not suffer them to take any pains, but lay the whole burden upon themselves. Like unto the Bees, they affect a kingly government; and in case they have no leader, they make their nests in holes of clay, walls, and the like; where they live like vagabonds, and gather nothing. They do oftentimes rob the Bees, and (as I said) be very angry creatures, implacable, and very noxious to those who disturb their nests. *Aristophanes* calleth all those maids which are fine, slender, and pretty small in the waste, *σφουδιαι*, resembling them to Wasps; which by *Topsel* is interpreted, as if he should name them *VVasp-wasted-wenches*: the reason whereof is, because the body of a Wasp seemeth to be fastned together to the midst of the brest, with a certain thin fine thread as it were; and to be as if they had no loins at all. And as your finest bodied wenches are like them in their waste, so sometimes too like them in their sting; by which their best beauty is eclipsed: and better were it to endure the continual droppings and thunderings of a rainy day, than the waspish harms of wicked women, whether it be that they carry their stings either in tongue or tail.

Hornets.

The *Hornet* is called by the Grecians *αἰδων*, because with their sting they raise an *Anthrax* or carbuncle, with a vehement inflammation of the whole part about it: and in Latine it is called *Crabro*. These creatures do not gather their meat from flowers, but for the most part they

they live upon flesh and stinking carrion, which makes them delight so much in dung-hills. They use likewise to catch flies, and hunt after small birds, which if they can but sting, they kill. Mr. *Topsell* makes mention of a strange combat between an Hornet and a Sparrow, which he himself saw, at a Town called *Duckworth* in *Huntingdonshire*; and the Sparrow lost the day: for being wounded by the Hornets sting, the bird fell to the ground, and the Hornet greedily sucked her blood. The said Author writeth that their life is but short, never above two years: and as for their combs, they be wrought with greater cunning, more exquisite art, and curious conceit, than those either of Wasps or Bees; neither need we doubt (saith he) but that they bring forth their young by the sides of their cells, and perform such other offices in their breeding as the Bees and Wasps do.

* A fight between a Sparrow and a Hornet.

The Gray or Badger is their greatest enemy; for in the full of the Moon he useth to make forcible entrance into their holes. And without fear he is able to spoil their nests. And albeit they most commonly feed upon flesh, yet they do greatly love all kind of sweet things, and oyl, with other matter of a greasie substance.

The Badger an enemy to the Hornet.

And for to make a medicine against the sting of bees, hornets, or wasps, do thus. Take of opium, of the seed of henbane and camphire, of each a little quantity, and incorporate them with rose-water, or juice of willows, and lay it upon the wounded place, applying on the top of a linnen cloath, which must be first thoroughly wetted in wine, and this is good to assuage the pain. Vinegar and camphire are also excellent to wash any such place.

A good medicine against stinging.

Cantharides are flies whose juice is poyson: they shine like gold, and must be carefully used in any experiment, otherwise they do much harm; as the unskilful and adventurous have sometimes proved to their own cost.

Cantharides.

Pyrausta is a flie so called from *πῦρ*, *ignis*; because it lives in the fire, and dieth without it, *Plin. lib. 11. cap. 36.*

Pyrausta.

* Like unto
which is an
herb in Sardi-
nia, of which
if any eat
much, they pe-
rish and die
laughing. It is
like to Balm
gentle. *Alunfi*
Bomb. x.

Tarantula is a little flie, frequent in *Italy*: it will many times sting the people, whereupon they presently fall a laughing; and if musick be not forthwith brought them, they cannot choose but in a mortal merry fit take leave of the world and *die. Neither can they at all be cured, unless by hearing musick: and (as it is reported) if the cure be not thoroughly done, they dance ever after at the sound of musicks pleasing strains: shewing thereby, that this is a creature, an admired creature, and of a strange property.

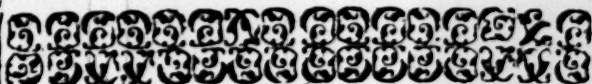
Bombyx is commonly called the *Silk-worm*; but whether I may name it a worm or a fly, I cannot tell. For sometimes it is a worm, sometimes a flie, and sometimes neither worm nor flie, but a little seed, which the dying flies leave behind them.

As for example; when these dainty creatures have made them little husken houses, and spun out the just length of their silken webs, they eat out themselves from those prisons; and (although they were worms before) yet then they appear with their pretty wings, and fly about a while: in which space the male accompanying with the female, doth as it were tread her; and then, laying some certain egges, like little seeds, they cease to live any longer: from which seeds proceed more young ones (at the first like Maggots) and they do as their dams before them, and then die.

And let this creature end my discourse concerning the things done in this fifth day; wherein, not able to mention all, I have toucht at some; and those so excellent, as I could have spent more time in their better view, were it not the succeeding day hastens his dawning. In the phrase of *Moses* I will therefore conclude, and concluding say,

*The Eve and Aton were now the fifth of dayes;
And God gives to his work deserved praise.*

CHAR.



CHAP. IX.

This ninth Chapter concerneth the Creatures made in the sixth and last day; namely creatures living neither in the air, nor water, but upon the earth: and these be of two sorts, the brute Beasts, and Man.

This Chapter hath two Sections.

SECT. I.

Wherein is both a division and entrance into this dayes work; as also a discourse of the first part of it, concerning the brute beasts, whose creation was in the first part of the day.



He just period of the fifth day being come to an end, the sixth approacheth; wherein God Almighty shutteth up the creation of every species: and after all, he resteth from his work, and watcheth by his providence over each part and parcel of the world which he had made.

D d d 2

And

And in this day he first produced the brute beasts living upon the face of the earth ; then he comes to the creation of man , and makes him the *Colophon* or conclusion of all things else ; in whose nature he placed the greatest dignity of any creature that is visible : for man is of a middle between the beasts and Angels, transcending the one , and yet not worthy to equalize the other ; as afterwards, when I come to that particular, shall be declared, with other things pertinent to his creation.

And now, that the terrestrial beasts and he should be made both in one day, is worth observing : for had he been to live in the air , he might have seen the Sun with the flying fowls, and have been created when they were made : or had his habitation been in the waters, the fish and he might both at once have been produced. But being made, neither to swim with the fishes, nor flie with the birds, but live upon the earth, it was most harmonious that the terrestrial beasts, and his creation, should in the same day the one succeed the other. And that the end might shew the perfection of the work, the priority of time is given to the beasts ; but the excellency and priority of all appears in man , who was made *Lord of the creatures* , and in whom God had placed a surpassing condition, and (by far) a more noble nature, For whereas they are led by sense , he hath reason ; whereas they look downwards and groveling from the sky , his countenance is erect , and his looks are mixt with Majesty ; whereas they are animate without an immortal soul , he liveth when he dieth. and hath a soul which death it self knows not how to kill, and whereas their bodies fall and never rise again, his riseth when it is fallen, and is like seed sown, which sprouteth up when the time is come.

The creation
of Beasts.

"If this then be both the order and cause of such an order in this dayes work, I must leave the most excellent piece until the last, and begin first to look and observe how

how the beasts, in their several kinds and dainty squadrons, march up and down, and walk from out the shop of their Creator; being brought to perfection even as soon as that powerful word who spoke it, did onely say it, *Let them be.*

It would (I confels) require no small volume to discourse of all. Howbeit even in a few, the glory of their Maker may well appear: and with that thought let us name some, by which we may admire the rest.

And first consider what a strong vast creature the mighty Elephant is known to be. There is no creature (saith * one) amongst all the beasts of the world which hath so great and ample demonstration of the power and wisdom of Almighty God, as the Elephant: both for proportion of body, and disposition of spirit: and it is admirable to behold the industry of our ancient forefathers, and noble desire to benefit us their posterity, by searching into the qualities of every beast, to discover what benefits or harms may come by them to mankind: having never been afraid of the wildest, but they tamed them; and the greatest, but they also set upon them: witness this beast of which we now speak, being like a living mountain in quantity and outward appearance, yet by them so handled, as no little dog could be made more serviceable, tame, or tractable.

They are usually bred in * the hot eastern countreys, for by reason they cannot well endure the cold, they delight most in the East and South; as in *India*, and some places of *Africa*. And before the dayes of *Alexander Magnus*, there were never any in Europe: but when he fought against * *Porus* King of *India*, he became Master of many: and how bravely they fought at the first for their masters, and received many wounds. *Curtius* hath related.

These Indian Elephants are most commonly * nine cubits high, and five cubits broad; and in *Africa* they be about eleven foot high; and of bigness proportionable to their height.

The Elephant

* *Topsel*

* *Plin. lib. 8. cap. 11.*

* *Curt. lib. 8.*

* *Topsel.*

Their

* And in *Pegu* the King hath many, it being part of his royal Title, *King of the white Elephants*; See *Mr. Purch.* in his *Pilgr.* of *Asia*, lib. 5.

Their colour is for the most part mouse-coloured, or black; and yet there was * once one in *Erbopia*, all white, as *Mr. Topsell* relateth. They have a skin so hard (excepting on their belly) that it is a very hard matter, and in a manner impossible, to pierce it with any sword, spear, or Iron. It hath on it very few hairs, and is very full of chaps or crevices, in which there is such a savour as invites the flies to a continual feast: howbeit they pay dearly for their cheer; for although the Elephant cannot make use of his tail to drive them away; yet by thrinking of himself close together, he incloseth the flies within the chaps, and so killeth them. He hath a long trunked nose, mighty teeth, four whereof be within his mouth, serving to grind his meat, and two hang forth; as afterwards shall be shewed. He hath a tail slender and short, and legs of an infinite strength: his head is very great, so that a mans head may as easily be thrust into it, as his finger into the mouth of a dog: but yet his ears and eyes are not equivalent to the residue of his other parts: for his ears are small, and their matter like to the wings of a Bat or Dragon; and some (bred in some places) have no ears at all. Their eyes likewise are like the eyes of swine, but very red. Two of their teeth (as I said) grow far out of their mouthes, one of which they always keep sharp to revenge injuries and defend themselves, and the other is less sharp, being often used to root up plants and trees for their meat; and commonly they grow out to the length of ten feet: this is that which we call Ivory, and of which many pretty things are cut by Artists.

Munster reporteth how these beasts are taken; namely by the cunning cutting down of a tree, against which they use to lean and stay themselves. For this beast, *saith he, having fed till he is full, betaketh himself to rest, and leaning to a tree he sleepeth, for he cannot bend his joynts as other beasts do; not because he wanteth joynts, but

* *Munster*
Colmog.

but because his sinews are more strong, and closely knit his joynts together; or else because there is much flesh between the skin and bones; or because his skin is so crusty, like to armour, and unfit to bend. Now when the people perceive any such tree as is worn and made foul by the Elephants leaning against it, they come in the absence of the said beast, and cut it almost quite through close by the ground; insomuch that being ready to fall, it cannot stand when the Elephant cometh to rest against it, but by giving way causeth him to fall together with it; and then he lieth helpless upon the ground all the night with his belly upward, and not being able to bend his legs and arise, he is caught in the morning by those who had cut the tree with purpose to deceive him.

The way to catch Elephants.

The same Authour also mentions another way whereby they of *India* sometimes take and tame them. For there be Elephants (saith he) in *India* which be very wild and fierce, but they are easily made tame; namely thus. The people intending to catch them, compass some clean place with a deep ditch of about four or five furlongs in compass, and in one place only they make a bridge very strait and narrow, being the way to enter in: then they set three or four female Elephants which they have already *tamed, and they themselves lie watching privily till the time that the wild Elephants come and pass over the bridge: then on the sudden do they *stop the passage, and afterward bring some of their strongest tame Elephants to fight with these wild ones thus inclosed: besides which, they do likewise punish them with hunger and lack of meat; and when they be wearied with fighting, they which are bold hardy fellows (by help of the tame Elephants to shelter them) will privily creep under their bellies, and suddenly chain and fetter them. After this they move their tame Elephants again to beat the wild until their fetters cast them to the ground, and then they yoke them to the necks of their tame

* These females are appointed with a certain oyl, which causeth the wild Elephant to follow them.

* Some say they are chased in, as is also the tame Elephant trained up on purpose for such huntings *Purch. of Asia, lib. 3.*

tame ones, and lay chains upon them, that thereby they may pass on quietly : and at last bringing them home, they fasten their legs and necks to a strong pillar, and so by hunger and society tame them ; teaching them at the last when they begin to feed them, to be obedient to their masters in such manner as best pleaseth them : and then they will grow so loving, gentle, milde, serviceable, and docile, as is indeed a wonder. And if by chance any of them shall happen through fury to kill his keeper, he will shew so much sorrow, and take it so heavily, that he abstaineth from his meat, and sometimes even pineth to death ; like unto that Dolphin, which in the former day I mentioned, who using to carry a Boy upon his back, one day by meer accident happened to kill him with one of his prickles, not closely couched, before the lad was mounted on his watery steed.

The Mouse is
offensive to
the Elephant.

The little mouse is sometimes offensive to this beast, and will strive to run into the trunk of his nose ; neither can he endure to eat more of his meat if he see but a mouse run over it.

But above all, he hath two fierce enemies ; viz. the *Dragon*, and the admired great *Rhinoceros*, who coming to fight with the Elephant, first whetteth his horn growing upon his snout, and then grappling close, he woundeth the Elephant into his belly ; for elsewhere the force of his fury cannot enter. *Plin. lib. 8. cap. 20.*

• *Mouse.*

And as for the *Dragon*, he likewise fighteth furiously, because his delight is to suck the blood of the Elephant, which is cooling to his hot nature : but drinking too largely of it, (as he will do if he can) down falls the Elephant for lack of blood, and down likewise falls the Dragon, because he hath sucked too much : and so both die striving together. *Ibid. cap. 12.* or, as * some say, the Elephant dying falls upon the *Dragon*, and so kills his foe who killeth him.

And in this fight the *Dragon* deals most cunningly : for first he sitteth watching upon a tree, and when the Elephant

Elephant is come near unto that place, he suddenly skips, and cleaves round about him: and if then the *Elephant* begin to beat him off against a rock or tree, he claspeth close about his legs. And seldom doth the combat cease without the death of both the fighters. An emblem from the Elephant.
A fit emblem this, of those who fall whilst they suck the blood of others, and perish in such gains as are purchased by the harms of those whom they strive to subvert.

Moreover, the *Elephants* have such a kind of modesty and shamefastness, that the male never covereth the female but in secret; and this never but once in two years; and that, when the male is five years old, and the Female ten. From whence, * *Geminianus* gathers this instruction. By this example (saith he) men are taught honesty to use the acts belonging to their conjugal or matrimonial estate, both according to the place and time. *Arise and let us pray* (saith young *Tobias* to his wife) *that God would have pity on us.* And in praying he likewise said, *I take her not for lust, but uprightly: therefore mercifully ordain, that we may become aged together.* And she said with him, *Amen.* Of which careful continence, *Geminianus* gives this reason why it ought to be in us; because we are children of the light, and may * not do as the heathens who know not God. Whereupon * *S. Augustine* saith, that they commit adultery with their wives, who in the use of wedlock have neither regard of seemliness, nor honesty. And *Hierome* likewise makes this assertion, that nothing is more shameless than to make a strumpet of a wife: meaning when they turn the remedy into a disease, through a lustfull, immodest, and immoderate use of the marriage bed.

Furthermore, the *Elephants* are long-lived, they have great pleasure in good water, are very impatient of cold, and many of them live * almost 200 years.

Also there is one singular property yet more to be

E c c

obser-

The marriage bed must not be abused.

Gemin. lib. 3. cap. 60.

Tobit 8 4, 7, 8.

* *Ezek 8. 20. and 22. 10. Levit 18. 19. See Mr. Perle in his Aurea Caten.*

* *Munifi.*

A pattern for
great men.

*Gemin. lib. 3.
cap. 96.*

*The Rhino-
ceros.*

** Parth. 3.
Book of Asiu.*

observed in them, viz. that even the wild ones living in deserts will direct and defend strangers and travellers. For if an Elephant shall find a man wandering in his way; first of all, that he may not be affrighted, the Elephant goeth a little wide out of the path and standeth still: then by little and little going before him, he thews him the way; and if a Dragon chance to meet this man thus travelling, the Elephant then opposeth himself to the Dragon, and powerfully defendeth the helpless man who is not able to defend himself. So ought it to be chiefly amongst great men, and those who are mighty; they should not injure strangers and travellers (as many do) when they come into their territories, but rather by themselves, or theirs they should direct and succour them from the hurts and harms of evil men.

The *Rhinoceros* is a beast every way admirable, both for the outward shape, quantity, and greatness, and also for the inward courage, disposition, and mildness. For this beast is next to the Elephant, every way as strange, and in a manner exceeding him, unless it be in his quantity or height of stature: for although he may be as long, or perhaps longer than an Elephant, yet he is not so tall, neither are his legs so long; and for the length, it must be a large *Rhinoceros* which can measure with the Elephant, for ordinarily the Elephant exceedeth, according to the testimony of *Strabo* alledged by *Mr. Topsell*.

In the * kingdom of *Bengala* great numbers of these beasts may be found; their colour is like the rinde or bark of a box-tree; their skin upon the upper part is all wrinkled, and of such firmness and hardness that no dart is able to pierce it; and being wrinkled, it appeareth as if they were armed with shields, or set over with scales, which go also down along their legs to the very hoofs which are parted into four distinct claws. Moreover, upon the nose of this beast there groweth a hard
and

and sharp horn, crooking a little towards the crown of his head, but not so high; it is flat and not round, and so sharp and strong, that it will pierce through things of exceeding hardness: and from hence it is that he is called a *Rhinoceros* in the Greek; by which word is signified a * *Nose-horned* beast. He is headed somewhat like to a wild Boar, and hath again another horn growing upon his withers, but it is a small one. The manner of his fight with the Elephant I have already mentioned, and as for his horn, teeth, flesh, blood, claws, and whatsoever he hath without and within his body, it is good against poyson, and (as * Authors write) is much accounted of throughout all *India*. The reason of which vertue is thought to proceed from the sovereign powers which are in those herbs that *Bengala* yieldeth; for in other places they are nothing so precious. Some have thought this to be the right Unicorn: but of that phancy see more, as followeth.

Monoceros is a beast with one horn, called therefore by the name of an *Unicorn*: and albeit there be many horned beasts which may improperly be called Unicorns, yet that which is the right Unicorn indeed, is like unto a colt of two years and a half old, which hath naturally but one horn, and that a very rich one, which groweth out of the middle of his forehead; being a horn of such virtue as is no beasts horn besides: which whilst some have gone about to deny, they have secretly blinded the eyes of the world from their full view of the greatness of Gods great works. For were it not said that the horn were excellent and of surpassing power, I perswade my self it would never be doubted whether there were an Unicorn or no. But that there is such a peculiar beast, the Scripture, both in *Deuteronomy*, *Isaiah*, *Job*, and the book of *Psalms* doth bear us witness: In all which places how do Expositors translate the original vword, but thus, *unicornis*, or *Monoceros*, which in English is an *Unicorn*.

* *Topsel.**Purch. ibid.
ex Linfist.**The Unicorn**Deut. 11. 17.
Isa. 14. 7.
Job 39. 9.
Psalm 92. 10.*

And again, it is the testimony of *Ludovicus Vertoman-*
mus, alledged by *Gesner*, *Topfel*, and others, that he him-
 self saw a couple of the true Unicorns at *Mecba* in *Ara-*
bia: one whereof had a horn of three cubits, being of the
 bigness of a colt two years and an half old; the other
 was much less, and his horn shorter, about a span long,
 for he was but young: and both these were sent to the
 Sultan of *Mecba*, for a rare present, by the King of *E-*
thiopia, who ever desireth to be in league with the said
 Sultan, thinking nothing too dear to maintain his ami-
 ty. And certainly he could not send him a gift more
 welcome, especially this being a beast so rare and sel-
 dom seen; which may be, in regard that it is a creature
 delighting in nothing more than in a remote and solitary
 life.

The colour of these thus sent was like a weasel-col-
 oured Horse; the head like the head of a Hart, the neck
 not very long, and the mane growing all on one side;
 their legs slender and lean, like the legs of an Hind;
 the hoofs on the forefeet cloven, and the hinder legs
 somewhat shaggy. The nearest (of any beast better
 known) is the Indian Ass, and Indian Horse; excepting
 that their hoofs are whole and not cloven, and their co-
 lour somewhat differing: for there is a horn grows out
 between their two eyes, like to the true Unicorn. By
 which it appeareth that of Unicorns there is one principal
 kind onely; the rest are less principal, and subor-
 dinate to him whose horn is the strongest, sharpest, and
 of the greatest virtue. For in granting more kinds than
 one, I do not understand every beast with one horn; but
 onely such *Monoceros* as have in their horns virtue a-
 gainst poyson: like unto those horses of *India* mentioned
 but even now, and of which *Mr. Topfell* writeth that
 they have Harts heads, and one horn, of which their
 Kings and Princes make cups to drink their drink a-
 gainst poyson, finding a great preservative to be in the
 said horn. *Munster* saith that the King of *Ethiopia* hath
 some

some store of these beasts; and Mr. *Topfeli* nameth two kingdoms in *India* (the one called *Niem*, the other *Lamber*) which be likewise stored with them.

Moreover concerning the horn, it is neither light nor hollow, nor yet smooth like other horns, but hard as iron, rough as any file, revolved into many plaits, sharper than any dart, strait and not crooked, and every where black, except at the top or point. It hath many sovereign vertues, and with an admirable dexterity expelleth poyson: insomuch that being put upon a table furnished with many junkets and bauquetting dishes, it will quickly desery whether there be any poyson or venome amongst them; for if there be, then presently the horn is covered with a kind of sweat or dew. And (as it is reported) when this beast cometh to drink, he first dippeth his horn in the water, that thereby he may drive away the poyson when venomous beasts have drunk before him.

A description
of the Uni-
corns horn.

And again I find it recorded, that the Indian and Ethiopian hunters catch of those Unicorns which be in their countrey, after this manner. They take a goodly strong and beautiful young man, whom they clothe in the apparel of a woman, besetting him with divers flowers and odoriferous spices, setting him where the Unicorns use to come; and when they see this young man, whom they take to be a woman, they come very lovingly and lay their heads down in his lap: (for above all creatures they do great reverence to virgins and young maids) and then the hunters having notice given them, suddenly come, and finding him asleep, they will deal so with him, as that before he goeth, he must leave his horn behind him.

How Hunters
take them.

These, and many other things more, concerning this beast may be read in the large writings of *Gesner* and *Topfeli*, whither I would with the more inquisitive to have recourse.

Africa breedeth many *Lions*, and the colder the place

The Lion.

is, the gender they be: and in time of their coupling, eight or ten will follow one female, whereupon arise very terrible and bloody battels among them. They engender backward; and so doth the Camel, Elephant, Rhinoceros, Ounce, and Tiger. They spare women rather than men, and prey not at all on infants, except in case of much hunger; and albeit the Lion be a fierce and cruel beast, yet he is said to shew great clemency to the humble, and such as prostrate themselves submissively before him; which he will the sooner do when he hath lately filled his belly with a former prey. The male useth not to feed with the female, but either of them apart by themselves. The Lioness or She-lion is the fiercest, and alwayes the most cruel. Their tail is a token of their inward meaning: for if it stirreth not, he is gentle and peaceable; but moving, he is angry. These beasts will keep revenge in mind a long while, either against man or beast that hath hurt them. And in like manner they will as long be mindful of a benefit, and do their best to make requital, as is famous by that story of *Androdes* who was slave to a Senator of *Rome*; and one named *Mentor*, a man of *Syracusa*, upon whom a Lion favyned to have him help his diseased foot.

A story of a
Lion.

For concerning the first: when *Androdes* fled from his Master, by reason of some hard usage that he received at his hands, by chance he happened to take up his lodging in a cave; which (unknownn to him) was a Lions den: where, when he had been a while, not long before night the Lion came home from hunting, and having gotten an hurt upon his foot, he no sooner espied the trembling man in this fearful place, but he cometh gently unto him, stretching forth his foot, and making moan as though he desired help. The poor slave at the first expected nothing but death, neither did he think of any thing more than to have his sepulchre in the Lions belly; but at the last perceiving what the matter was, he took the

the Lion by his paw, searched the wound, pulled out a thorn, bound up his foot and gave him ease: which kind office being performed, was first of all requir'd with a daily portion of provision which the Lion would bring in for his guest; and the poor helpless man would roste it in the Sun as well as he could, and then eat it. But being weary of this kind of diet, and as weary of his solitary life, he went away; for whose absence, the Lion, (as himself could hear) made great mourning and lamentation. And see how it happened; this man did no sooner depart than he was taken by some whom his Master sent to seek him; and then (alas) there is no way for him but one; die he must. Neither shall his death be other than a tearing in pieces by cruel beasts: for the *Romans* had a custom to sit in their Theatres and behold such bloody games; and direful piteous; and therefore they would catch and keep beasts on purpose. But it fortun'd that amongst other beasts taken this Lion was one, who being brought into the Theatre, greedily rent in pieces such as were thrown unto him: yet when his old guests turn came, he forgot his fury and turned it into fawning, by which the poor slave perceived what Lion it was, and thereupon gathered up his Spirits, renewing again his old acquaintance with his former friend, even to the admiration of all the beholders. And the matter being known and related to them, he had not onely pardon for his life, but the Lion also was bestow'd on him to wait upon him. *Ælianus* reports this story, and so doth *Annius Silius* in his *Æneid* night. *Hic est Leo hospes hominis; hic est homo medicus Leonis*, was that which the People would say when they saw him lead along his Lion through the streets: Here goeth (say they) the Lion which was the mans host; and there is the man who was the Lions Physician.

And to shew that the Lion delighteth not to kill his prey before he be ready to eat it, appeareth by another story

story which I find related by Mr. *Topfel*, in his history of four foot beasts.

Another story
of a Lion.

A certain English man being turned Moor, and living in *Barbary*, was told of a Lion which lay lurking not far off; and he, to shew his valour, being half drunk, would needs undertake to go and kill him in the place where he was: whereupon he armed himself with a sword, dagger, and musket: having also a long large knife about him. And when he came to the place where the Lion was, that he might shew himself valorous, he would not kill him as he lay asleep, but toucheth him with the end of his Musket that he might awake: which being performed, the beast suddenly mounted up and eagerly sets upon this fool hardy champion, throwing him presently down to the ground: whereupon he could think of no other but a speedy execution. But seeing the Lions belly was lately filled with a former prey, he forbearth to kill him; only he standeth over him and keeps him down with his paws, intending so to hold him until he had a stomach to prey upon him. But in the mean time, this champion studying how to acquit himself, between hope and fear, draws out his long barbarian knife (for he had his hands at liberty) and with it he wounds the Lion two or three times: but he, desirous to possess his prey against his need, never regarded from whence the wounds came, and thereupon he falls at the last fainting to the ground, and so dying delivers his prisoner against his will, who now might triumph in a conquest that was altogether beyond either hope or expectation.

These creatures delight much to feed on Camels flesh, and on the flesh of Apes: howbeit when they eat Apes, it is more for * Physick than for food: and sometimes they will catch the young Elephants. Neither do they drink often or overmuch; and having eaten to satiety, they use to fast * three dayes before they feed again. Their bones. (saith *Munster*) be sound and not hollow, inasmuch

Allan. var.
1. 1. 1.

Munster.

inſomuch that ſome affirm fire may be ſtruck out of them as from a flint; and ſometimes being too fiercely exalperated to anger, they are in ſuch a heat, that it even burns them up, and kills them. So have I ſeen ſome very powerful and exquisite in many things, and yet but ſlaves to their own paſſions; ruling others, but not able to command themſelves: although there be few but know, that it is a * greater point of valour to ſubdue a mans ſelf, than to conquer a ſtrong and mighty City.

What *Pliny* hath written of this Beaſt may be ſeen at large in the ſixteenth chapter of his eighth book; to whom, and others, I refer ſuch as deſire more.

Tigers, like *Lions*, are bred in the Eaſt, South, and hot countreys, becauſe their generation deſireth an abundance of heat. It is a beaſt of a wonderful ſwiftness: and in the proportion of his body he is like to the * *Lioness*, footed like a *Cat*, and ſpotted like a *Panther*, excepting that the ſpots be long, and all of a colour. Generally they be cruel, ſharp, ravenous, and never ſo tamed but ſometimes they return to their former natures: but above all, in the time of their luſt, or when they be robbed of their young, they are moſt raging and furious.

* *Pliny* hath deſcribed the manner how the hunters get away their whelps very commonly. They come upon horſeback, and finding the old *Tigers* from home, they take up their young ones and poſt away as faſt as they can; and on the ſudden they find themſelves purſued, wherefore when the old one cometh near them, they let fall one of her whelps on purpoſe, that whiſt ſhe is carrying that to her neſt, they may eſcape ſecurely with the reſt. And ſometimes they make round ſpheres of * glaſs which they caſt before her when ſhe cometh, and thinking by reaſon of her own ſhadow) that ſhe ſeeth her young ones there, ſhe rolleth it to her den, where ſhe breaketh it with her claws, and finding her ſelf deluded runneth after the hunters again, by which time they are gone too far for her to find.

He is truly valiant, that can overcome himſelf.

* *Fortior eſt qui ſe quam qui fortiffima vincit mania.*

The Tiger.

* And note that his *Muſtachios* are holden for mortal poiſon; cauſing men to die mad if they be given in meat.

Purch

* *Plin. lib. 8. cap. 18.*

* *Muſter. Topſell.*

* Top/sil.

There is an * herb near the River *Ganges*, growing like *Bugloss*, the juice whereof is such, that if it be poured into the mouth of their dens, they dare not come forth, but will lie howling there till they die.

The Panther.

Plin lib. 8.

ap. 17.

The *Panther* is a beast little differing from a *Leopard* or *Libbard*; * some think they differ in nothing but in sex. In Greek the general name is *Panther*; the special names, *Pordalis* and *Pardalis*. *Pordalis* is taken for the male, and *Pardalis* for the female. And in Latine it is called *Pardus* and *Panthera*; where it must be again observed that *Pardus* signifieth the male *Panther*, and *Panthera* the female. Neither is the difference between the *Leopard* and *Panther* only in sex, but rather in respect of a mixt and simple generation: for there is no *Leopard* or *Libbard*, but such as is begotten between the *Lion* and the *Panther*, or the *Panther* and the *Lioness*.

How the *Leopard* is begotten.

This is a beast which hath variety of colours, a sweet breath, and is very fierce and wild, insomuch that some have therefore called him a *Dog-wolf*; and yet being full, he is gentle enough. He sleepeth three dayes (saith *Munster*) and after the third day he washeth himself and crieth out, and with a sweet savour which cometh from his breath, he gathereth the wild beasts together, being led by the smell: and then (saith *Pliny*) doth he hide his head very cunningly, lest his looks should affright them; whereupon, whilst they gaze upon him, he catcheth his prey of which he pleaseth. So have I known some hide their ill meanings with fair and sweet-breathed words; having hony in their mouths, but gall in their hearts; and a direful intent cruelly to hurt when they seem most of all to please. For sugred speeches will catch the credulous; neither is all gold that fairly glisters.

An emblem from the Panther, concerning fair tongues and false hearts.

Now the reason why these beasts have such a sweet breath, I take to be in regard that they are so much delighted with all kind of spices and dainty aromatical trees: insomuch that (as * some affirm) they will go ma-

* Top/sil.

ny hundred miles in time of the year when these things are in season; and all for the love they bear to them. But above all, their chief delight is in the gum of Camphory, watching that tree very carefully, to the end they may preserve it for their own use.

Of *Camels* there be chiefly three sorts: the first called *Hugum*, of great stature and strength, able to carry a * thousand pound weight: the second less, with two bunches on the back, and sometimes one upon the breast; these are called *Bichem*, are found only in *Asia*, and are fit both for carriages, and to ride on. The third sort is meagre and small, not used to burdens, yet able to travel above an hundred miles in one day: this kind they call *Ragnahill*.

The *Arabian* and *Bactrian* Camels, although they want horns, yet they have teeth but on one side. And of all the sorts, their necks are long and nimble, by which the whole body is much relieved, seeing it can reach to most parts; their heads are small, and feet fleshy, in which regard they use to be shod with leather for fear of gravelling; I mean such as are tame and made serviceable. They love grass, especially the blades of barley, and when they drink, the water must not be clear but muddy. The surname therefore of the Camel, is *Trouble-bank*; for they will * mud the water with their feet, otherwise they take no delight to drink it. So have I seen some, never better pleased than when they trouble the clear fountains of justice and pure doctrine, with the muddy streams of injustice and errour. Or some, never better cleared than when they may drink deeply of the dirty puddles of worldly wealth, little regarding the sweet taste of the water of life, which is a clear river running from the throne of God and the Lamb, *Rev. 22*. And as for the bunch upon the Camels back, the Scripture doth thereby express the swelling pride and confidence of rich worldly men, who as hardly enter into the kingdom of God, as the Camel

The Camel

Purch.

*Plin. lib. 8.
cap. 18.*

** Plin. Ibid.*

An Emblem
from the Ca-
mel, concern-
ing those who
prefer earth
before hea-
ven.

* *Mat. 19. 24.* with his bunched back can go through the * eye of a needle.

The Horse
and Camel
great enemies.

The Horse and the Camel are great adversaries : and with his very sight and strong smell, the Horse is terrified. *Crom* therefore being excelled by the *Babylonians* in horsemanship, used this stratagem of the Camels.

Stuffs made
of Camels hair

And as for our fine stuffs, as grogram, and camblet, they be made of Camels hair, as some do affirm : as also there is a courser hairy cloth to be made of the worst of this hair, such as was that garment worn by *John Baptist* in the wilderness.

A lesson of pa-
tience and hu-
mility taught
by the Camel.

And of the Camels this one property more : when their masters load them, they will bow themselves, and stoop down to the very ground with their knees, patiently enduring to take up their burden. So have I seen some, as willingly humbled under the cross, and as patiently stooping to take it up, and follow their master Christ who went before them. For it is a true rule, that God can and doth love his children well, although he make no wantons of them.

The Drome-
dary.

Moreover the *Dromedary* is a kind of Camel, but less, and far more swift.

The Came-
leopard.

And as for the *Cameleopardus*, he is begotten by a mixt generation between the Camel, and Leopard or Panther.

The Hyena.

* *Lib. 1. c. 10.*

The *Hyena*, as it is described by * *Pliny*, is a beast whose neck hath no joynt, and therefore he stirs not his neck but with bending about his whole body. He will imitate humane voice, and drawing near to the sheep-coats, having heard the name of some of the shepherds, he will call him, and when he comes, devour him. His eyes have many colours ; and the touch of his shadow makes a dog not able to bark. And (as the Magicians would make us believe) this beast hath the power of incantation ; they therefore tell many strange things which they be able to do.

* *Topsell.*

Neither is this any other than the * common or vulgar *Hyena*,

Hyana, which is likewise called *Lupus vespertinus*, a wolf of the night, being in quantity of body very like a Wolf, but much more rough in his hair, and bristled all along his back like a horses mane, the middle whereof is somewhat crooked. His colour is yellowish, but speckled on the sides with blew spots.

The second is called * *Papio* or *Dabub*, bigger and rougher than the former, with feet something like to a mans hand. They breed much about *Cesarea*; and their custom is, being gathered together, for one of them to go before his company singing and howling, and all the rest answering him with a kind of correspondent tune; whose voices are so shrill and sounding, that although they be remote and far off, men may hear them as if they were hard by; and when one of them is slain, the residue flock about his carcase, howling as if they should make funeral lamentations for the dead. They sometimes, being compelled by hunger, will search into the silent Graves of dead men.

The third kind is the *Corcuta*, and this happeneth when the Lionsess and the *Hyana* do ingender together.

The fourth is *Manticora*; he is bred among the Indians, having a treble row of teeth beneath and above, with a broad face fashioned like the face of a Man, a beard both on his chin and upper lip; his eyes are gray, and his colour red, and in the shape of his body and legs like to a Lion. His tail is long and slender, armed at the end with sharp quills, with which he woundeth the Hunters when they set upon him; and this is strange, that the quills being darted off do presently grow again. And as for his chief delight, it is to eat Mans flesh.

The *Zebra* is a Beast which amongst * all Creatures both for beauty and comeliness is admirable pleasing. He resembles a Horse of exquisite composition, but not altogether so swift, all overlaid with party-coloured laces

* *Idem. pag.*
439.

The Corcuta.

The Manticora.

Zebra.
* *Purch. lib. of*
Africa cap. 1.

laces and gards; from head to tail. In *Africa* they abound, and live in great herds together.

Muslo.
* *Muslo. Cef.*
Epis.

In the Country of *Sardinia* there is a certain Beast which they call *Muslo*, the like whereof (as * some affirm) is not in all *Europe*. It hath a skin and hairs like unto a Deer or Hart, crooked horns like unto a Ram, which bend backward about the ears. In bigness he may be compared to a Buck: he feedeth onely upon grasse and herbs, and keepeth most about Mountains, is very swift in running, and his flesh is very good to be eaten.

*The Ovas-
som.*

* In *Virginia* there is a beast called *Ovasom*, which hath a head like a swine, a tail like a Rat, as big as a Cat, and hath under his belly a bag, wherein they carry their young. *Parck.*

Virginia dogs,
Wolves,
Foxes, &c.

Moreover I find in the said Author, that their Dogs in that Countrey bark not: their Wolves are not much bigger than our Foxes, and their Foxes like our silver-haired Conies, and of a different smell from devouring.

The Wolf.

The *Wolf* is a ravenous and devouring Beast, and rightly surnamed *spoil-park*; and those of the common sort have grizled hairs, being white under the belly, a great head, and armed with big and long teeth, sparkling eyes, and short prickt ears; and for his feet, they be something like to the feet of a Lion. He is therefore called *Lupus* from *Leopes*; *quia pedem quasi pedes Leonis habet.*

* *Gemin. l. 5.*

* *19.*

* *1611.*

* Or else come
with the green
leaves and
small boughs
of Osters, &c.

Where these Creatures live, the people are much infested with them: they will sometimes steal from their folds abroad, and sometimes do them mischief at home. When they come to the sheepfolds, they observe which way the * wind bloweth, and then they come marching against it, that thereby they may the better deceive the shepherd and his dogs. And when they pray upon Goats, they * hide themselves under the leaves of trees that they may the more easily obtain their desire. When they catch little Children, it is said that they will play with them for a while (as the Cat playes with a Mouse) and at the last devour them.

Pliny

Pliny and *Olaus Magnus* write, that *Egypt* and *Africa* bring forth but small Wolves in respect of those which are in the Northern parts of the World; and as the Elephant is impatient of cold, so these Beasts do as much detest heat. And again there be certain Mountains which part the Kingdoms of *Swetia* and *Norway*, upon which live the whole herds of white Wolves.

Plin. lib. 8. c. 25

Ola. Mag. lib. 18.

* Some say that if the heart of a Wolf be kept dry, it will render a most fragrant or sweet smell; and in the bladder of a Wolfe is a certain stone of a saffron or hony colour, which inwardly containeth as it were certain weak shining Stars. But this (methinks) is strange. The Ravens are in a perpetual enmity with Wolves, and the antipathy of their natures are so violent, that if a Raven eat of the carcase of a beast which the Wolf hath either killed or formerly tasted of, the presently dieth: and again it is reported that when a Wolf espieth a single passenger travelling by the way, if he thinks himself not able to set upon him, he will make such a piteous howling that his companions suddenly come to help him.

* *Topfel.*

* *Ibid.*

Romulus and *Remus* were said to be nursed by a she-Wolf: but *Lupa*, signifying a devouring Harlot, may rather be applied to *Laurentia* the Wife of *Faustulus*, who had played the Harlot with certain shepherds.

Romulus and *Remus* not nursed by a Wolf.

Wolves have no society but with beasts of their own kind: and above all Creatures, they and Dogs are most subject to madness; the reason of which is, because their bodies are cholerick, and their Brains increase and decrease with the Moon.

And as for their several kinds, see more in *Gesner*, *Topfel*, *Olaus Magnus*, and such others.

Vulpes, the Fox, is a subtil crafty Creature. They differ in colour according to the climate wherein they be bred, and sometimes also in quantity. The urine of this Beast falling upon any herb or grass, dryeth it up, and causeth it to wither. His fat or grease is good against the

The Fox.

The subtilties
of the Fox.

the Cramp or Gowt : and so also is his skin, if it be wrapped about the grieved place ; testified by *Olaus Magnus* in the eighteenth book of his Northern History.

Moreover, concerning the subtilties of this Beast, they be in a manner infinite. By putting his tail into the water he will catch an abundance of Crabs and Lopsters at his pleasure ; for they take great delight to hang and enwrap themselves inro such brushy stuff, and he hath as great delight to fish them out.

And again, when cold, snow, and hunger shall oppress him, coming near some Farm or Mansion-house, he feigneth a kind of barking like a Dog, that thereby the household Beasts may more confidently keep themselves without fear, being often used to the barking of a Dog, and so having gotten himself near unto his prey, he will lie upon his back with his belly upwards, mouth open, tongue out, and every way seeming as if he were dead ; then the Hens, or Geese, or what else is fit for him, are suddenly surprised and cunningly caught, whilst they little dreamed of such a subtilty.

Sometimes again he will roll himself in red Earth, and besmearing himself with it as if he were bloody, he will again lie on the ground, verily seeming as if he were dead, by means whereof he inviteth the fowls to come and prey upon him ; but he deceiveth them in his crafty wiliness ; and being deceived, they are taken.

Also, he sometimes escapeth the danger of Dogs by a counterfeited barking, by which he feigneth himself to be one of their kind. And by his subtilty he escapeth from the Snares, and that not seldom : for if he be taken by the foot and cannot free himself, he will prostrate himself upon the ground, and shew no appearance either of life or breath ; insomuch that when he cometh who set the snare, and findeth him in this posture, he will suppose him to be no other than he seemeth ; and then loosing the snare without any thought that he should escape,

escape, he suddenly riseth and runs away. The like was credibly reported to me of a Fox, creeping into a mans house at a little hole, who filling himself too full knew not how to get out; whereupon in the morning he was found as dead: the man kicks him about the house, and at the last throws him out of doors on the dung hill; where he was no sooner with joy arrived, but up he starts, and finds his legs as willing to carry him as he was willing to escape.

Moreover, being hunted, he will sometimes run among a flock of sheep or goats, and get upon the back of some one or other of them, forcing that sheep or goat to run; the rest follow, insomuch that the hunters are unwillingly compelled to call in their dogs, for fear they should seize upon, or harm the flocks.

And to rid himself from fleas, he hath this device, reported by *Olaus Magnus*. He takes in his mouth a little wisp of soft hay, with which he wrappeth a little hair; and coming to a river, he puts himself in, all but his head; then when the fleas are come up so high as his head, he sinketh lower, even, till the hay in his mouth touch the water; by means whereof the fleas are driven thither: and being there, he lets the wisp go, and so clears himself.

How the Fox
catcheth fleas.

In like sort * he deceiveth the Hedg-hog; for when the Hedg-hog perceiveth the Fox coming to him, he rolleth himself together like a foot-ball, and so nothing appeareth outwards but his prickles, which the Fox cannot endure to take into his mouth, and therefore the crafty Fox, to compass his desire, licketh gently the face and snout of the Hedg-hog, by that means bringing him to unfold himself again, and to stand upon his legs; which being done, he devoureth him by poisoning him with the urine that he maketh upon the Hedg-hogs face.

* Topfall.

He hath a trick likewise to * revenge himself upon
G g g the

* *Gemin. lib. 5.
cap. 39.*

the Brock or Badger : for there is great enmity between them : the Fox therefore finding the Badger gone from home , for the spite he bears him, will come and with his piss defile the Badgers den : whereupon he is forced to forsake it and seek a new.

A cunning
rick of a tame
Fox.

But was not that a cunning tame Fox who would stand all the day quietly chained according to his masters mind, and when night came would slip his collar, and go out to kill the neighbours Geese : and before morning come again, and put his head within his collar, presenting himself to his Master, as if he had never gone out ?

An emblem
from the Fox
& her young,
concerning
false friends.

Moreover, the young Whelps of the Fox, when they can find no more milk in the paps of their dam, will bite them with their teeth, and rend and tear them, reputing them as strangers. So have I seen fraudulent Friends, who will love no longer than you feed them.

Idem.

I am dum stat, quamdiu militas durat, saith * one : *They abide so long as there is profit for them*: according to that of Seneca, *Qui militatis causa assumptus fuerit, tam diu placebit, quamdiu utilis erit*, And indeed it is too true, as common experience beareth witness.

The Lynx.

Lynx is a spotted Beast much like a Wolf ; it hath a more piercing sight than any creature in the World. And of Lynxes it is said there be two kinds ; the one a greater, which hunteth Harts and great Beasts ; the other a smaller, which hunteth wild cats and Hares. Of this last kind *Olaus Magnus* writeth, that there be some of them in the Northern woods of *Swetia* and *Norway* : and generally there be many Countries both in *Europe*, *Asia*, and *Africa*, which abound with both kinds. But above all, those which are bred in *Europe* are commended for the best spotted : and in *Europe*, those of *Scotland* and *Swetia* are * most beautiful.

* Top. ex Bel.
lon.

He is a Beast as ravening as a Wolf, but more crafty ; and, as he finds his opportunity, will prey upon man as well as a Beast. Howbeit, in the Summer time they be

ver

very weak, and live faintly among the Rocks, never straying far from home, hurting no man until the Autumn. And for the manner of catching their prey, most commonly it is thus; They will get up into trees, and there lie in wait for their booty until they espy it under the boughs, and then suddenly do they leap into the neck of it, whether it be * a man or great Beast; wherein they fix their claws so fast, that no violence can shake them off; and then with the sharpness of their teeth they first bite into the skull, and eat out the brains.

* *Idem Ibid.*

The ancient Pagans dedicated this Beast to *Bacchus*, feigning that when he triumphed in his chariot of vine-branches, he was drawn by Tygers and Lynxes.

They love their young ones very intirely; and that some should think they are bred between a Wolf and a Hind, is utterly without reason, seeing there is such hostility and adverse disposition in their natures.

It is reported that when they be taken they will shed forth many tears, and weep very pitifully: and their urine congealed, turneth it self into a precious stone, which for brightness resembleth the Amber being a stone of sovereign vertue: and they, knowing their Urine to be thus beneficial, rather than man should find it, they use to bide it in the Earth or sand; and yet they are deceived: for (as * *Pliny* writeth) it is there soonest of all converted into a stone, and not seldom found. Which, by * *Geminianus*, is rightly made an emblem of the envious man, who will not only endeavour to do hurt, but be heartily sorry if by chance it be his hap to do any one good.

An Emblem
of envy.* *Lib. 17. c. 1.** *Lib. 5. c. 71.*

The *Beaver* is a beast of a very hot nature, living both in the water and on the land, and differeth from an Otter only in the tail. *Germany, Spain, France, Italy*, and divers other places abound with these Beasts. His stones are much used in Physick, the Hunters therefore catch him that they may geld him; whereupon he is called *Castor*: for it is but a fable to say he biteth out his own

The Beaver.

stones when they come to take him; for indeed they lie too close in his body to be pulled out with his feet. These stones, and genitals, the Physicians call *castoreum*: and as for his skin and hairs, their use is also excellent.

The Otter.

The *Otter* is something less than a *Beaver*, and may well be called *A dog of the water*; and (as Mr. *Topfeli* thinketh) is, without all doubt a kind of *Beaver*. It is a sharp-biting beast, never letting his hold go until he make the bones to crack between his teeth; and as for the females, they use to give suck to their whelps, until they be almost as big as themselves.

* *Lib. 8.*

Olavi Magnus calleth them * *Lutra, quadrato ore mordaces*; and telleth us that some great men in *swedia* keep tame *Otters* in their houses, which are so tractable that the Cook of the kitchen can send them into the fish-ponds to bring him fish for his masters dinner.

A medicine for
the megrim,
and palfie.

Their skins (besides other uses) if they be worn in caps, or stocking-soles, are good and wholesome against the palfie, megrim, and other pains of the head. *Topfeli*.

The Squirrel.

Sciurus, the *Squirrel*, is a quick nimble creature which will skip from tree to tree with great facility. When she is out of her nest, her tail serveth to secure her both from Sun and rain. Howbeit, it is sometimes a hurt unto her; for the hairs of it be so thick, that striving to swim over a river, her tail is so laden with water, that sinking she drowneth. Wherefore nature hath taught her this pretty piece of policy: namely, to get upon a little piece of wood, which swimming wafts her securely over: and wanting a sail, her bushy tail set up and spread abroad, supplies the room of that defect.

Olavi Mag.
Ibid.

* *Plin. l. c. 38.*

Pliny saith they have great foresight in the change of weather, and will therefore stop up the hole of their nest on that side from whence the tempest is like to blow, opening a passage in the contrary place, or side opposite

opposite to it. The like whereunto is affirmed of the Hedge-hog also.

Their skins are exceeding warm, and their tails profitable to make brushes: their flesh is tender, and in a manner comparable to the flesh of Kids or Coneys; and yet not very wholsome, except the Squirrel were a black one.

When this beast is hunted, she cannot be driven to the ground to creep into hedges, unless extremity of faintness cause her so to do through an unwilling compulsion: for such (saith *one) is the stately mind of this little beast, that while her limbs and strength lasteth, she tarrieth and saveth her self in the tops of tall trees, disdain-
 ing to come down for every harm or hurt which she feeleth; knowing indeed her greatest danger to rest below, among the dogs and busie hunters. From whence may be gathered a perfect pattern for us, to be secured from all the wiles and hungry chasings of the treacherous Devil, namely, that we keep above in the lofty Palaces of heavenly meditations: for there is small security in things on earth; and greatest ought to be our fear of danger, when we leave to look and think of Heaven.

But I come to another beast: which in *Topels* history is thus described. There is in the New found World far into the South, a strange and terrible beast, which they of the Country where it liveth, call a *Su*; so named because it liveth near the water, and a *Su* in their language signifieth water. It is a creature of a very deformed shape, monstrous presence, a great ravener, and altogether unnameable. She hath a mighty great tail, which is brushy, fierce talons, and a cruel look. Now when Hunters (for the desire of her skin) shall set upon her, she flyeth very swift, carrying her young ones upon her back, and covereth them with her broad tail. And the Hunter, not daring to encounter with her but by treachery, is forced to this

* *Top.* p. 558.

An emblem
from the hunt-
ed Squirrel
concerning the
small security
in things on
earth.

* *A strange
Beast called
a Su.*

this project ; namely to dig great holes in the ground and cover them over with boughs , sticks , and Earth : which he doth so weakly , that if the Beast chance at any time to come upon it , she and her young ones fall down into the pit , where they have no way but one , they must be taken . But this cruel , immovable , impatient , violent , ravening , and bloody beast , perceiving that her natural strength cannot deliver her , first of all , to save her young ones (as she supposeth) she destroyeth them all with her own teeth , so that never any of them could be taken and tamed ; and then howleth and roareth at the Hunters who come about her ; but now they need not fear her , she is secure enough : whereupon they use means quickly to dispatch her , and by fatal blows to stop her mouth from brawling . Then they take off her skin , and leave her carcase in the earth ; and of what use her skin is , I have not heard .

The Hedge-hog.

The *Hedge hog* is a beast well known , about the bigness of a Cony , but like to a Swine ; having her body beset with and compassed all over with sharp thorny hairs , or pricking bristles , which she setteth up or keepeth down at her pleasure : and by these she defendeth her self from those who seek her life ; which is attributed to her as a kind of craft or wiliness . Some therefore have likened a deceitful man unto this beast , who turneth and windeth himself for all advantages , and is now this , then that , and sometimes neither this nor that .

An emblem
from the
Hedge-hog.

* *Top/sell. pag*
279.

Between him and the * *Serpent* there is mortal hatred ; for it is said that the *Serpent* will seek out the *Hedge-hogs* Den , and then falleth upon him with purpose to kill him , but the *Hedge-hog* draweth himself up together round like a football , so that nothing appeareth but his thorny pricks : whereat the *Serpent* biteth in vain , for the more she laboureth to annoy the *Hedge-hog* , the more she is wounded and harmeth her self ; howbeit the height of her mind , and hate of her heart be such that they will not suffer her to let him go , till

one

one or both parties be destroyed: yea it sometimes so happeneth, that the least Creature hath the best success, and gets the conquest. So have I seen some provoke others to their own ruine: for if proud minds and high spirits could always have their wish'd ends, the low shrubs should never thrive, nor mean Estates enjoy the Sun.

Moreover (as is reported) this Beast altereth and changeth her nest according to the blowing of the North or Southern wind. So have I heard of those, whose care hath been to apply themselves unto the times, apt to turn with every wind, altering their judgements and opinions in time of persecution, from that which they held in time of peace and quiet: whereas a hardy soldier is known but in a Winter siege, nor a true Christian but in a fiery trial.

Next after the Hedge hog I may mention the Porcupine, or *Porcus pine*, for *Porcus* and *spina*; so called, because he is, as it were, a thorny-hog, or another hedge-hog something differing from the former: for the vulgar Hedge-hog is *Er cini sylvestris*, and the Porcupine *Ericus montanus*. This Beast is usually bred in *India* and *Africa*, and brought up and down in *Europe* to be seen for money.

The general proportion of his body is like a Swines, and seldom is it that they be bigger than a pig of half a year old. But in the particular members there is some difference, as in his ears which are like to the ears of a Man, his mouth somewhat like to the mouth of a Hare, but with a longer slit, and with three of his foreteeth in his upper jaw hanging out of his mouth: his two hinder feet are something like the feet of a Bear, and those before like the feet of a Badger; and in a word, his body is beset with certain sharp quills or prickles, which when he is hunted, he can dart off either in the mouths of the Dogs, or Legs of the Hunters. And of these quills men make wholsome tooth-picks; for it is said that

An emblem
from the Ser-
pent and the
Hedge-hog,
concerning
mean estates.

The Hedge-
hog changeth
his nest.
The emblem
deceiveth
time-serverers,
and constant
professors.

The Porcu-
pine, or
Mountain
Hedge-hog.

if we scrape ourteeth with these, they will never be loose.
Topfell.

The Armadillo.

Armadillo is a Beast in *India* like unto a young Pig, covered over with small shells like unto armour; it lives like a mole in the ground.

The Alborach.

The *Alborach* is a fair white Beast like an *Ass*, frequent in the Turkish Territories, upon which beast *Mahomet* was carried up to Heaven; as the blasphemous Priests of that Nation perswade the silly Pilgrims of *Mechu*. *Idem.*

The Hare.

* *Lib. 8. c. 33.*
* *North. hist. l.*
18.

The *Hare* is a fearful creature and well known to every one. *Gesner* describes her amply in his History of Beasts, as also *Topfell*, * *Pliny*, *Olaus Magnus*, and such others. Now the cause of fear in this Creature, is in regard that she hath no other arms to defend her from being taken, but her little pretty nimble Legs, and swift running. It is said that when they watch they shut their eyes, and when they sleep they open them; which, how true it is, I know not: howbeit the Egyptians, when they would signify an open and manifest matter, used to picture an *Hare* sleeping.

Moreover, it is easily seen that the *Hare* hath longer Legs behind than before, and so runneth faster up the hill than down; contrary to almost any other Beast, for they make more speed downward than up. Whereby (saith * one) may be signified, that whereas most men in the World go down the way which leadeth to destruction, he which is good will imitate the watchful *Hare*, and climb up cheerfully the way to Heaven; which was prefigured by ascending up to *Sion*, the mountain of the Lord, *Psal. 24. 3.*

And again, the *Hare* hath very long ears, is quick in hearing, but dull of sight; which, to apply it as an emblem, may be thus; The * ear, being the instrument of hearing, is *sensus doctrinae*, the sense of Doctrine, and gate to let in good instruction; but the eye, being the sense of seeing, is the instrument of delight and vanity. Wherefore

* *Wiles on*
Levit.

An emblem
from the hare,
concerning the
wayes to Heaven
and Hell.

Another.

* *Idem. Ibid.*
How to use
our hearing
and seeing.

fore

fore we should be swift to hear things for our instruction, and shut our eyes from beholding things that tend to vanity.

The *Cony* is a beast near of kind to the *Hare*: in some Countries they * begin to breed being but six months old, but in *England* at a year old, and so continue bearing every month, or at the least seven times in one year. Their young are blind at the first, and (like whelps) see not until they be nine days old; neither hath their dam any suck for them till she hath been six or seven hours with the male, or at the least she cannot suckle them for the desire that she hath to accompany the *Buck*, which if she be not presently permitted to do, she will have no propensity any more until 14 days after.

The Males will * kill the young ones, if they come at them, as the he-cat useth to do; and therefore it is thought that the females use to cover up their nests with earth, and keep them close until they be ready to run. Their flesh is * commendable, light of digestion, wholesome, cleanly, nourisheth temperately and firmly: and what commodity a good Warren of Conies bringeth toward the keeping of a good house, men, who love hospitality know very well. Howbeit they have sometimes proved dangerous about Cities and Castles by undermining their Walls: for (as *Pliny* writeth in the 29 chapter of his eighth book) there was a Town in *Spain* overthrown by the digging of Conies; and one again in *Thessaly* destroyed by the casting of Moles. It is not good therefore to let them have a freedom of breeding too near our houses for fear of damage. To conclude, * They use not to live very long, and chiefly they take delight in hard and sandy grounds which are dry; for they have no greater Enemy than the wet. from whence it proceedeth, that their greatest infirmity is rottenness. And therefore for those who keep tame Conies, *Markham* teacheth that they shall only take the finest, sweetest,

H h h

and

The Cony.
* *Topical.*

* *Markham*
Meth.

* *Haven of*
health, p. 119.

* *Mark. ibid.*

and driest hay that they can get, and mix it very well with the herb hare-thistle, and therewith feed their Conies; which Medicine will both cure and prevent the foresaid malady. And note, that in *India* there is a little beast called a *Pig-coney*, with short round ears, and a body somewhat rounder and fuller than our Conies.

The Ferret.

An Emblem
from the Fer-
ret, concerning
covetous Rich
men.

The *Ferret*, in Latine is called *Viverra*, *quasi vivens in terra*, as living in the Earth, creeping into, and searching in the holes thereof; by which means they infest no Creature more than the Cony. This is a bold and audacious Beast (though little) and an Enemy to all other, except their own kind; and when they take a prey, their custom and manner is, only to suck in the blood, as they bite it, and not to eat the flesh; and if at any time their prey shall be taken from them, they fall a squeaking and crying. Such (saith one) are the Rich men of this World, who yell, and cry out, when they part with their Riches; weeping and wailing for the loss of such things, as they have hunted after, with as much greediness as want of pity: in whose commendation, I think, as much may be said, as was once by a Preacher at the black Funeral of an Usurer, of whom there is this Story.

A Story of an
Usurer.

A great Rich Usurer, having purchased a mighty estate, was at the last sent for by death to leave the World; and lying upon his Bed, the Doctors and Physicians finding his sickness to be mortal, gave him over. Then do his Friends about him send for a Divine to come and comfort him; who willingly tells him of many comforts for his souls health, and amongst other things puts him in mind of this, *viz.* That he had been a great purchaser upon earth, but now he must study for another purchase, which was the Kingdom of Heaven. Now the Usurer turning upon the other side, at the hearing of the word *purchase*, answered, *I will not give more than according to fifteen years for a purchase*, and so died. Afterwards, this Gentleman preaching at his funeral, in the conclusi-

on of his Sermon said only thus : *Brethren, it is now expected that I should say something concerning our Brother here deceased : I will end it in few words, namely these ; How he lived, you know ; how he died, I know ; and where his soul now is, God Almighty knows.*

The *Poul-cat*, or *Fitch*, in Latin is called *Putorius*, & *The Poul-pitore*, because of his ill smell ; for when they are provoked or stirred, they stink grievously. Their delight is to suck eggs ; kill and eat Hens and Chickens : and it is worth observing, that their craft in devouring their prey is singular ; for to the intent that the silly Creatures to be devoured may not betray them to the house-keepers, the first part that they lay hold on with their mouths is the head of the Hen or Chicken, by which means they bite off their heads, and so keep them from crying.

The *Weasel* in Latin is called *Mustella*, from *mus* and *stellare*, of snatching up of mice : for (though an Enemy to pullen) she devoureth and destroyeth mice ; and because she hath been often seen to carry her young ones in her mouth, some have thereupon supposed, that she conceived by the ear and brought forth by the mouth : and for this cause *Aristeas* (mentioned by *Gesner* and *Topsell*) writeth that the Jews were forbidden to eat them ; for this their action is an emblem (saith he) of folly and foolish men, which can keep no secrets but utter all that they hear : for there be many, who when they have heard tales with their ears, enlarge them with their tongues, and by adding to reports turn Mole-hills into Mountains, & *se crescit eundo* ; because as many have itching ears, so some have scratching and augmenting tongues, desiring to be heard as the reporters of news. But the Egyptians turn it into another sign, and say that their copulation at the ear, and generation at the mouth, are emblems of speech, which is first taught to the ear, and then uttered by the tongue. All which are pretty fancies, although they be founded upon a mistaken ground ; as before I shewed.

Lib. 8. c. 21.

An emblem
from the wea-
fel, concerning
the use of an
enemy.

The Mole.

* Plin. lib. 8. c. 17.

* Topell.

* Gemin. ex
Arist.

* Idem. l. 5. c. 29.
and Dr. Will.
on Levit. c. 11.
An emblem
from the Mole.

Howbeit, this is recorded for a truth, that whereas the Basilisk killeth all Creatures with her poyson that approach unto her, or contend with her, the Weasel only is found to match her; witnessed not only by * Plin., but by others also, who besides this Weasel know not of any other Beast in the World, which is able to stand in contention against the Cockatrice. But note that Rue is hateful to a Serpent, and good against poyson; the Weasel therefore useth to eat of this herb both before and after the battel; so well hath Nature taught her to find a preservative against her venomous and hurtful adversary: and on the contrary, so well is Nature pleased, that no beast should be without his match. In a word, seeing the Weasel (as I said before) will destroy Mice as well as hurt pullen, it serveth as an emblem to demonstrate, that one sometime may make use of an Enemy; and though every thing be not good for one thing, yet it doth not follow that it is therefore good for nothing. But I leave the Weasel, and come to the Mole.

The Mole is a Creature well known; the snout of it is like to the nose of a Shrew-mouse; and as for eyes or sight, she wanteth either: onely the * place where the eyes should stand have a little black spot like a millet or poppy seed. In Latin she is therefore called *Taipa*, from the Greek word *μοιρα*, blind. And yet (*saith one) by dissection of a Mole great with young, it hath been proved that the young ones before birth have eyes, but after birth living continually in the dark earth without light, these their seeming eyes cease to grow to any perfection.

And some again have witnessed, that although the Mole be blind all her life time, yet she * beginneth to open her eyes in dying; which * I find thus applied, and it is a pretty emblem. This serveth to decipher the state of a worldly man, who neither seeth Heaven nor thinketh of Hell, in his life time, until he be dying:
and

and then beginning to feel that which before he either not believed, or not regarded, he looketh up and seeth. For in *moris, velis, nolis*, saith * *Geminianus*, even against his will he is then compelled to open his eyes, and acknowledge his sins, although before he could not see them. It was the case of *Dives* to live and die in this black misty blindness, for he had no grace to look up till he was in torments, and then (alas) it was too late. Yet herein was that saying of *Gregory* plainly verified; *Oculus, quos culpa claudis, pœna aperit.*

The *Martins* and *Ermins* be small beasts, as little, or less than a Squirrel; the fur of whose skins is precious and of great esteem, worn only by Kings and noble Personages: and although these beasts be not bred in *England*, yet there be plenty of them in many places beyond the Seas: * they are said to have a sweet sinell in their dung or excrement, like the Musk-cat; which proceedeth rather from the nature of the beast than from the meat which he eateth: and for an ease to Gouty Legs, it is good to apply these *Martins* skins.

The *Zibet*, or *eruet-cat*, is a beast bigger than any Cat, and lesser than a Badger, having a sharp face like a Martin; a short, round, blunt ear, black without, but pale within; the eye of a blew sky-colour, the foot and leg black, and more broad or open than a Cats: It hath black claws, a black nose, and is spotted all over the body, but on the nose, with certain other marks notably described by *Gessner* and *Topfel* in their book of beasts.

This is a beast given much to cleanness, and from this beast proceedeth that precious drug which we call *eruet*. It is an excrement not growing in the Cod or secret part only, but in a peculiar receptable by it self, increasing every day to the weight of a groat: and who they be which keep these Cats tame or inclosed, must remember to take away this distilled liquor every second or third day, or else the beast doth rub it forth of his own accord.

That

A sinner
though blind
in life, sees in
death.

* *Ibid.* c. 89.

The Ermin.

* Meaning the
Martins.

The Civet-
Cat.

*The Musk-
Cat.*

That Creature which men call a *Mus-cat* or *Musk-eat*, doth much resemble a Roe, both in greatness, fashion and hair, excepting that it hath thicker and grayer hairs: the feet also are hooved, and in the province of *Carhay* these Cats are found. This beast is that from whence the Musk proceedeth, which groweth in the navell, or in a little bag near unto it; and of it self it comes to be ripe, whereupon the beast itcheth, and is pained: he therefore rubbeth himself upon stones, rocks, and trees till he break the bag; then the liquor runneth forth, and the wound closeth: but soon after, the bag comes to be full again.

The Cat.

The common or vulgar *Cat* is a creature well known, and being young it is very wanton, and sportfull; but waxing older, very sad and melancholy. It is called a *Cat*, from the Latine word *Cantus* signifying wary: for a *Cat* is a watchfull, and wary beast, seldom overtaken, and most attendant to her sport and prey: she is also very cleanly and neat, oftentimes licking her own body to keep it smooth and fair, which she can do in every part but her head: she useth therefore to wash her face with her feet, which she licketh, and moisteneth with her tongue: and it is observed by some, that if she put her feet beyond the crown of her head in this kind of washing, it is a sign of rain.

Why the male
Cat eateth his
young.

And again, it is ordinary to be known, that the male *Cat* will eat up her young Kittlings if he can find where they are: the reason of which is because he is desirous of copulation, and during the time that the females give suck they cannot be drawn unto it.

Wherein Cats
be dangerous.

Moreover, it hath been usual for many men to play and sport with these creatures; in which regard, *Topfell* very fitly calleth a *Cat*, *the idle mans pastime*: affirming further that many have payed dearly for their unadvised sporting. Whereupon he tells a story of a certain company of Monks much given to nourish and

and play with Cats, whereby they were so infected, that within a short space none of them were able either to say, read, pray, or sing in all the monastery: the reason of which is, because the savour and breath of Cats destroy the Lungs, and consume the radical humour. Wherefore it is a means to bring any into a Consumption, who shall suffer these Creatures to lie with them upon their beds, for their breath (especially in a close Chamber) infecteth the air: therefore they be also dangerous in time of pestilence, and apt to bring home venomous infection; in which regard it is very expedient for to kill them in such perilous times, as they use to do in Cities and great Towns.

And note that above all things the Cat abhorreth wet or water, from whence arose that Proverb:

Catulus vult piscem, sed non vult tangere lympham.

Fain would the Cat some Fishes eat,

But loth to wet her foot so neat.

In which she is a fit emblem of those, who will shrink to encounter with that pain which hardours and bringeth forth their wished gain. For be it so that we desire the sweetness of the well relisht kernel, then must we likewise crack the hard shell: for *Difficilia qua pulchra*, *Excellent things are hard to come by.*

Olaus Magnus makes mention of an abundance of wild Cats in *Scandinavia*, and where he speaketh of the Lynxes, he sheweth that they devour many of these Cats; affirming moreover that the skins of these Creatures are good against the sharp cold of Winter; whereupon those of *Scythia* and *Moscovia* use them for Garments.

The *Mouſe* is a Creature commonly of a dun colour; howbeit in differing places they have differing colours: for in some Countreys they be not dun or ash coloured, but blackish; in some again they be white, in some yellow, and in other some brown. In Greek he is called *μῦς*, and in Latin *Mus*, from *μύζω*, *mutire*, of the piping noise

A story shewing the danger of making Cats too familiar.

Lib 18.

The Mouſe.

Gemin. lib. 5.
cap. 6.

noise which he maketh. * Some say that Mice increase and decrease in the quantity of their bodies, according to the course of the Moon, being ever least when the light of that horned Lamp is further from the full. The like also I find recorded of Cats eyes; for as (Mr. *Tepfell* writeth) the Egyptians observed in the eyes of a Cat, the increase of the Moon-light; and in the male, his eyes do also vary with the Sun; for when the Sun riseth, the apple of his eye is long; towards noon it is round: and at the Evening it cannot be seen at all, but the whole eye sheweth alike.

* Var. hist. l. 1.

* *Eliahu* writeth that Mice excel all living Creatures in the knowledge and experience of things to come; for when any old House, Habitation, Tenement, or other dwelling place wax ruinous and ready to fall, they perceive it first; and out of that their foresight, they make present avoidance from their holes, and betake themselves to flight even as fast as their little legs will give them leave, and so they seek some other place wherein they may dwell with more security.

A story of a
Bishop eaten
up with mice.

I remember a story of a Man eaten up with Mice; by which we are taught that no humane device can withstand Gods Judgment. There was (saith *Munster*) a certain Bishop of *Magunze* named *Hatto*, who formerly had been the Abbot of *Fulden*, and in his time there was a great Famine in that Country: this Bishop, when he perceived the poor to faint, and to be oppressed with hunger, gathered together a great number of them into a large Barn, and setting it on fire he burnt them up; saying, that they little differed from Mice, and were profitable for nothing, for they did but consume and waste the Corn. Which damned trick and devilish tyranny, the great God of Heaven would not suffer to go away unrevenged, for he commanded the Mice by great flocks to invade this Bishop, and set upon him without pity, vexing him both night and day with purpose to devour him. Whereupon he fleeth for refuge into a certain Tower

Tower compassed by the water of *Rbene*, thinking himself to be then safe, and free from their greedy gnawings and cruel bitings; but he was much deceived: for the Mice followed him, and like speedy executioners to perform the just judgement of God, came swimming over, and at the last gnawed such holes into his body that they let in death, who suddenly sendeth out his soul to give an account for this foul deed. Which accident was done in the year of our Lord 914, and the Tower ever since called *the Tower of Mice*. *Munster Cosmog.*

Moreover, amongst other things which the Mouse taketh great delight to eat, he useth to watch for the gaping Oyster, and seeing it open, he thrusts in his head; which when the Oyster feeleth, she presently closeth her shell again, and so crusheth the Mouses head in pieces. Whereupon one made this emblem, *Captivus ob gulam*; whereby he deciphereth the condition of those men who destroy themselves to serve their bellies. Or (as another speaketh) such are here signified which are altogether given to their belly, and to carnal pleasure; for satisfaction whereof, *multa pericula sustinent*, they undergo many dangers, and pay dearly for their folly.

The *Shrew-Mouse* is called by the Hollanders, *Mol-musse*, because it resembleth a mole. For it hath a long and sharp snout like a mole, teeth very small, but so as they stand double in their mouth, for they have four rows, two beneath, and two above; and as for the tail, it is both slender and short. In Latin it is called *Mus araneus*, because it containeth in it poyson, or venome like a spider; and if at any time it bite either man or beast, the truth of this will be too apparent. But commonly it is called a *Shrew-mouse*; and from the venomous biting of this Beast, we have an English imprecation, *I beshrew thee*; in which words we do indeed wish some such evil as the biting of this mouse. And again, because a curst scold, or brawling wife is esteemed none of the least evils, we therefore call such a one a *Shrew*.

An Emblem from the Mouse, concerning those who destroy themselves to serve their bellies.

The Shrew-mouse.

* Epiphia.

The *Dormouse* is a Beast which endeth his old age every Winter, and when Summer cometh, reviveth again: which * some have therefore made an emblem of the resurrection. They are exceeding sleepey, and fatted with it. Their hair is short, and in colour variable, onely their belly is always white: and for mine own part, I ever thought them to be no bigger than an ordinary mouse, but in *Gisner* and *Topfell* they are said to be greater in quantity than a Squirrel.

The *Alpine*
Mouse.

The *Alpine Mouse*, or *Mouse of the Alps*, is of near akin to the *Dormouse*: it is almost as big as a Cony, and not much unlike it, saving that their ears be shorter, and their tails longer. *Munster* doth thus express their natures, saying; they be much given to sleep, and when they are waking, they be either playing and skipping to and fro, or else doing something; as gnawing with their teeth, scraping with their nails, or else carrying in their mouths either straws, rags, or soft hay, or any such thing that may be good for their nests. When they live thus wild upon great Hills and Mountains, and are minded to go and seek their prey or food, one of them standeth in an high place to give notice to the rest when any Enemy or danger approacheth; which when he perceiveth, he barketh, and then all the other catch as much hay as they can, and so come running away.

* *Munster*. C. 9. m.

But this is strange; * sometimes one and sometimes another lieth down upon his back, and as much soft hay as may be laid upon his breast and belly, he claspeth and keepeth fast with his feet, and then another of his fellows getteth him by the tail, and so with his prey draweth him home. About Autumn they begin to hide themselves in their nests, the which they have made so close that no air or water can hurt them: then do they lie hidden and sleep all the whole Winter, yea six or seven months without any meat, rolling themselves round like unto a Hedge hog. Now the Inhabitants do oftentimes observe and mark the place of their nests, and

and then digging away the Earth until they come at them, they find them so oppressed with deep sleep that they carry them and their nests to their houses, where they may keep them sleeping until the Summer, if they do not heat them at the fire, or the warm Sun.

The *Rat* is four times so big as the common Mouse, being of a blackish dusky colour, and is thought to belong to the kind of Mice: Howbeit you shall sometimes see a Rat exceeding the common stature, and this the Germans call * *The King of Rats*, because of his larger and greater body; adding moreover that the lesser bring him meat, and he lyeth idle; and yet this (perhaps) may be in respect of his old age, not being able to hunt for himself.

There be of *Dogs* divers kinds, neither is there any Region in the World where these are not bred. And of these kinds some are for hunting, some are for fighting and defence, some for the Boar, Bull or Bear, some for the Hare, Cony, or Hedge-hog, and some for one thing, and some for another. They bring forth their young ones blind, which is in regard that they scratch their dams when they stir in their bellies, which makes her therefore bring them to their birth before they be come to their eyes or sight, as in many other Creatures beside: and from hence arose the Proverb, *Canis festinans caecos parit caeculos*, *The hastning Bitch brings forth blind whelps*. Which is a fit emblem against all rashness and overhasty speed in any action; for haste makes waste, and sudden projects are seldom ripe.

But of all Dogs the *Grey-hound* may take the first place; he exceedeth in swiftness, and is preserved for the chase. This is a Grecian Dog, called therefore a *Grey-hound*.

The *Hound* is of a duller temper, whose only glory is in his smell: and of Hounds there be sundry sorts, but the least is the *Beagle*.

In the next rank we may place the *Spaniel*, whereof there is one for the Land, and another for the water;

The Rat.

* *Topfell.*

Dogs.

An emblem from Dogs, being a caveat against too great haste in any action.

The Grey-hound.

The Hound.

The spaniel.

The Mastive.

and as the Hounds were for Beasts, so these are for Birds.

Then there is the *Mastive*, whose vertue is only in his courage, strength, sharpness of teeth, and aptness to encounter with any fierce wild beast; against which they are so cunning, that but seldom or never do they part any other than victors, and how fiercely they will fight with their own kind, is apparent: nay, sometimes they have fought in defence of their masters, and either kept them safe from harms, or detected the murderers, or else in some other kind shewed their love; as a little after I purpose to declare.

And these (perhaps) at the first were the chief kinds (unless the *Tumbler* and *Lurcher* ought to be reckoned by themselves:) for concerning *Mongrels*, they came by commixtion of kind; which is thought to be first invented by hunters, for the amendment of some natural defect which they might find in those of a single kind. And then again, these *Mongrels* mixing likewise diversly, have produced those several seeming kinds which now are.

And as for your mimick Dogs, it is supposed that they came first from a commixtion of Dogs with Apes, or Apes with Bitches. Other Curs have had either Wolves, Foxes, or some such like Creatures to be their Sires; as many think.

* *Bark*, in his *Summum bonum*.

A story of a loving dog.

* *Lysimachus* had a Dog which waited on him both in the wars, and elsewhere; at the last dying, and being brought to be burned (according to the custom of the Country) the poor Dog leaped into the flames; and was burned with him. And when *Titus Sabinus*, with his family was put to death at *Rome*, one of their Dogs would never be driven from his Master; and being offered meat, he took it up and carried it to the mouth of his dead Master, endeavouring to have him eat; and when the dead carcase was cast into the River *Tyber*, the Dog swam after, labouring by all means possible to lift his Master out of the waters. Neither is it other than a credible

Another story.

dible report out of *Plutarch*, that as King *Pyrrhus* march-
ed with his Army, he happened to pass by a Dog which
guarded the body of his master, who lay dead upon
the high-way, which when the King had beheld a while
as a pitiful spectacle, he was advertised that this was the
third day of the poor Dogs fasting and watching there.
Whereupon the King commanded the body to be buried,
and the Dog for his fidelity and love to be kept and che-
rished. Not long after, the King happened to make a mu-
ster of his army, to see how well they were furnished; and
the Dog being by, remained sad and mute, until at the
last he espied the parties who murdered his late master,
and then he flieth upon them with such a wonderful
force and fury, that they had like to have been torn in
pieces by him, turning himself now this way, and then
that way, earnestly beholding the Kings, as if he desired
justice, howling most pitifully; whereupon the King cau-
sed the said men to be committed, examined, and racked;
and then not able to conceal it any longer, they con-
fess the fact, and are put to death. The like also was once
known to happen in *France*: for one Gentleman having
killed another, the murder was discovered by the Dog of
the slain man, in like manner as before; only the circum-
stances did a little differ: for the Dog and the suspected
person were put both together in a single combate for
clearing of the matter; and when the murderer could
not defend himself from the fury of the detecting Dog,
he confessed the whole matter, in memory whereof the
manner of the fight was painted forth, and kept to be seen
many years after.

Another Story.

Of *Apes* there be sundry kinds, and many of them in
something or other do resemble either men or women: as
the common *Ape*, the * *Satyre*, the *Norwegian* monsters,
the *Prasian Apes* which are bred in *India*, the *Bearded*
Ape living in *Ethiopia* and *India* likewise. the *Cepus*
or *Martin Monkey*; all which either in their shape or
countenance come near to men: as also the *Sphinx*,
which

Apes.

* Breeding in
Islands on the
further side of
Ganges, and in
the Eastern
mountains of
India.

* *Enigma* in the *Theban* language signifieth an in-
rode, or war-like incursion;
wherefore the people com-
plained in this sort: This
Oreion
Sphinx rob-
beth us in set-
ting upon us
with an *Enig-
ma*, but no man
knoweth after
what manner
she maketh
this *enigma*.
Tops, history
of beasts, p. 18
Alexander de-
ceived by
Apes.

which hath an head, face, and breasts like to a woman. Besides which there is the common Munkey, the *Baboon*, the *Tartarine*, not much differing from a Baboon; and the *Satyrene* monster, bearing the shape of a terrible beast, and fit onely to be joyned to the story of *Satyres*. Then again there is the *simiuntpa*, or *Spish-Fox*; and in *America* is a very deformed creature, which may be fitly called the *Bear-Ape*; and another which is called the *Sagoin*. Unto which (as not impertinent) may be also added the *Lamia*, which is a beast living in *Lybia*, with paps, a face, head, and hair like a woman, though in every other part like a terrible beast, full of scales, and a devourer of such passengers (as at unawares) shall happen to come near her. And as for the Fairy tales of the *Lamia*, they nothing belong to this creature; neither be those common reports of *Sphinx* his * riddle, any other than fables. Howbeit there is a true story of one, whose name was *Sphinx*, slain by *Oedipus*; which he could not do till he had scaled that strong fort which she had firmly builded for her own defence; and unto all but *Oedipus*, it proved as a thing impregnable. As for *enigma*, what it was, the margin sheweth.

But to proceed and leave this digression, the common Apes must be again remembred. They be very nimble and active creatures; and for their greatest delight, it is to imitate man in his actions.

About the mountains called *Emodis*, which be certain hills in *India*, there is (saith *Munster*) a large wood full of great Apes, which when *Alexander* and his Soldiers saw standing afar off, they supposed them to be enemies, and therefore were purposed to fight and set upon them: but some natives of that Country being present, shewed to *Alexander* that it was nothing but an assembly of Apes, whose contention was to imitate such things as they had seen; whereupon the King turns his battel into laughing, and his fighting into merry disport and pastime.

Moreover,

Moreover, I have sometimes read how these Apes are taken. The hunters intending to catch them, use to come and set full dishes of water within sight of the Apes; and then they begin to wash their eyes and face; which done, the water is suddenly taken and conveyed away, and in the stead thereof, pots full of birdlime or such like stuff, are set in their places. Then the hunters depart a little from them; and the Apes, observing how they before had washed their face and eyes, come now presently down from the trees, and thinking to do as the mended, they daub and anoint their eyes and mouths with birdlime, so and in such manner, that neither knowing or fearing any thing, they are suddenly made a prey, and taken alive.

How to catch
wild Apes.

And again, there is also another device mentioned by *Pliny, and this it is. They who use to catch Apes, take unto themselves buskins, and put them on in the sight of the Apes, and so depart; leaving behind them other buskins inwardly besnared with some such stuff as was mentioned before, with which they mix some hairs that the deceit may not appear: then do the Apes take them up, and plucking them upon their legs and thighs, they are so besnared and entangled, that thinking to run away they are deceived. *Elianus* also writeth that when the Lions be sick, they catch and eat Apes, not for hunger, but for physick.

Plin. lib. 8.
cap. 14.

And for the Ape, this also is her practice: when she hath two young ones to be nourished at once, that which she loveth *best shall be always held and hugged in her arms; but the other being less regarded, is more roughly used, and glad to sit upon the back of his Dam, open to all dangers, little or nothing respected: and yet it so happeneth, that the neglected one commonly fareth best. For whilst the other is hugged too hard, his Dam killeth him with kindness; but this rejected one liveth, although he wanteth the taste of foolish cockering. So have I sometimes seen it amongst the

An Emblem
from the Ape
and her young.
* *Filium quoniam
magis diligit,
in brachiis por-
tas, alium vero
in humeris ge-
stat. Gemin.*
lib. 5. cap. 10.

fond

Against the
fondness of
Parents.

fond sort of partial parents, that with too much love they often hurt some of their children, whilst the other left unto their hardest shifts, thrive and prosper in a harmless course. *Non amo nimium diligentes*, is therefore worth observing; because *omne nimium* is turned into *vitium*; and the readiest way to be soonest hurt, is to be fostered up in the fondest manner. For as he that flatters an Usher, claws the devil; so he that spareth the rod, spoils the child.

The folly of a
covetous man.

Geminianus mentions the like custom of the foolish Ape, but he applyeth the emblem otherwise, directing it as an example to decipher out the folly of a covetous man, who bears up and down in the arms of his affection, that fondling which he loveth, namely the world; but leaves and neglects other things wherein his love should shew it self, casting them upon his back, and as it were behind him, although afterwards it be his hap to suffer for it. For when any necessity shall urge the Ape to run, she casteth down the young one in her arms; but the other behind her sitteth still and hinders her course; so that being oppressed she is taken. In like manner when he, whose onely love and joy was in the world, is compelled by death to fly away, he letteth go that which was his best beloved, and thinking to escape the eager pursuit of his fierce tormenters, he is deceived, because the neglect of things to be regarded, lieth heavy on him, and they help now to make him wretched. It is better therefore to be poor than wicked; for it is not thy poverty, but thy sins, which shut thee out from God: and (fond fool) do not they take pains without gains, labour in vain, and traffick ill, who lose their souls to fill their bags? For (as *Isaac* shewed in blessing him who was to be blest) the dew of heaven must go before the fragrant fatness of the fertile earth; but in him who lost the blessing, the earths fatness goes before, and takes place of the dew of Heaven.

In them who
are blessed, the
dew of heaven
is before the
fatness of the
earth.

But

But do you not see the pawing Bear! he is a creature well known and such a one as is found in divers places of the world. * *Pliny* describeth this beast at large, not onely shewing the time and manner of their birth, but also of their retreating to their caves, long time of fasting, and of sleeping there. They bring forth young within the space of thirty dayes after their time of copulation, which at the first be shapeless and void of form, without eyes, without hair, their nails only appearing and hanging out, each whelp being little bigger than a Mouse; and these, by licking, are moulded into fashion, and day by day brought to perfection

This beast can fast many dayes, and by sucking his foremost feet, aswage or somewhat mitigate his hunger. Some say that they can be without meat 40 dayes, and then when they come abroad they are filled beyond measure; which voracity, and want of moderation, they help again by vomiting, and are provoked unto it by eating of Ants. But above all other things, they love to feed on honey: whereupon they will fearlessly disturb the Bees, and search into hollow trees for such repast; not altogether to fill their bellies, but most of all to help a dimness in their dull eyes. *Moscovia* hath many such breeding Bees: and *Munster* tells a story how a Bear seeking for honey, was the cause of delivering a man out of an hollow tree. There was (saith he) a poor countryman who used to search the woods and trees for the gain and profit of honey, and espying at the length a very great hollow tree, he climbed up into the top of it, and leaped down into the trunk or body, smaking and sticking fast in a great heap of honey even to the breast, and almost to the throat: and having continued two dayes in this sweet prison, during which time he fed himself with honey, all hope of deliverance was quite gone; for it was impossible he should climb up and get out, neither could his voice be heard although he cried with an open mouth, especially in such a solitude and vast place

The Bear.

* Lib 1. c. 36.

A Story of a man layed by a Bear.

of Wood and Trees : so that now being destitute of all help and consolation, he began utterly to despair; and yet by a marvellous, strange, and (as it were) an incredible chance, he escaped : for it so fell out that he was delivered and drawn forth by the help and benefit of a great Bear, which seeking for honey, chanced to happen upon this Tree : the Bear scaleth it, and letteth her self down into the hollowness thereof, with her back parts first, in manner and fashion of Man when he climbeth. Now the man in the Tree perceiving this, in a great fear and affrightment, he claspeth fast about the reins and loins of the Bear, who being thereupon terrified as much as the man was forced to climb up again, and violently to quit her self from the Tree (the Man in the mean time using great noises and many out-cries) and so by this accident, a wished, but hopeles liberty was procured : for the Bear being scared, drew up the man and knew not of it.

And note that in Bears their head is very weak, being contrary to the Lion, whose head is always strong. And therefore when necessity urgeth that the Bear must needs tumble down from some high Rock, she tumbleth and rolleth with her head covered between her claws, and oftentimes by dusts and knocks, in gravel and sand, they are almost exanimate and without life.

Neither is it seldom that their tender heads catch deadly wounds, although they cannot quickly feel them, by reason of their ardent love to hony. For (as * *Olaus Magnus* mentioneth) in *Russia* and the neighbour Countreys they use to catch Bears with a certain Engine like the head of a great nail beset with round sharp iron pegs, which they hang upon a bough just before that hole where the Bear fetcheth his honey, who coming according to his wonted custom, strives to thrust it away with his head, but the more he puts it from him, the stronger it cometh back upon him : howbeit he being greedy of the hony in the Tree, ceaseth not to push a-
gainst

gainst the Engine, until at last his many knocks caule him faintly to fall. So have I seen many perish through their own vain and fond delights : for as the sweetness of hony causeth the death of the Bear : so the delight in sin causeth the death of the soul. * *Geminus* applies it thus ; saying, that as the hony-seeking Bear destroys her self by her own folly, in beating back the piercing hammer ; so man, who seeketh after the pleasures and delights of sin, wounds himself by pushing against the pricks : for the word of God, as a * hammer breaking the Rocks, resisteth both him and his sin ; which whilst he * casteth from him, it doth more strongly impinge upon him, and will at the last * day judge him to perdition.

An emblem concerning the end of sin's sweetness.
* *Gemin. l. 3. c. 35.*

* Jer. 23. 19.

* Psal. 50. 17.

* Rom. 2. 16.

The *Bugill* is of the same kind with Kine and Oxen, *The Bugill*. and so is that other Beast which we call a *Byson*.

The *Byson* is a kind of wild Bull, never tamed, and bred most commonly in the North parts of the World. *Wild Bulls*. He is also called *Taurus Paonicus*, *The Paonian Bull* : of which there be two kinds, the greater and the less. Neither do I think these to be any other than those wild Bulls of *Prussia* mentioned by *Munster*, in his book of Cosmography, saying, *There be wild Bulls in the Woods of Prussia like unto the common sort of Bulls, excepting that they have shorter horns, and a long beard under the chin. They be cruel, and spare neither Man nor Beast ; and when any sinners or decess is prepared and set to take them, or if they be wounded with arrows or the like, they labour most vehemently to revenge their wounds upon him that gave them ; which if they cannot do, then through madness, by rushing and stumbling on Trees, they kill themselves.*

A frantick Beast, which, when he taketh harm And cannot give, dies whilst revenge is warm. Such savage Beasts there be in humane shape, Whose moody madness makes them desperate ; And 'cause they cannot harm their hurting foe, They harm themselves, and shew their malice so.

Some hurt themselves because they cannot hurt others,

The Elk.

The Elk cannot live but in a cold Countrey, as in *Russia*, *Prussia*, *Hungaria*, *Illyria*, *Swedia*, *Riga*, and such like. *Olaim* *Magnum* hath written much of this Beast, and so hath *Topfel* out of *Alberius*, *Gesner*, and others; and *Pliny* describeth it to be a beast much like an Ox, excepting for his hair: but others call it *Equi Cervus*, a *Horse-hart*, because it hath horns like an Hart, and is used in some Countries to draw Men in Coaches and Chariots, through great Snows and over ice. They be exceeding swift, and strong, and will run more miles in one day, than a horse can in three, as *Topfel* mentions in his history of four-footed beasts.

The Buffe.

* *Topfel*.

The *Buffe* hath an head and horns like an Hart, the body like a Bull or Cow, as also the feet; and most commonly the colour of an Asse: Howbeit, being hunted he is said to change his colour; which (as some imagine) cometh to pass, like as in a man whose countenance changeth in time of fear. This is that beast of whose skin men make them *Buffe-leather* Jackets; and in *Scythia* it serveth to make breast-plates, of strength, able to defend from the fly force of a fierce dart.

Of Deer.

Of *Deer* there be more kinds than one. Amongst those which be termed *Fallow-Deer*, there is the Buck and the Doe; the one being the male, the other the female. And concerning the *Red Deer*, there is the Hart and Hind; the Hart being the he, and the Hind the she.

Then again there is another sort, bearing the names of *Roes*; of which the male is the *Roe-buck*, and the Female the *Doc*.

These Creatures are said to be their own Physicians, and (as it were) not needing the help of man, can cure themselves through a secret instinct of nature, and the providence of God their maker: for by feeding on that precious herb *Distamnium*, or *Dittany*, mentioned before in the Third dayes work, they cure themselves of their

their cruel wounds, and so become whole again : and for otherills, they have otherherbs. The males are horned, which they cast off once every spring; and being disarmed Pollards, they use to keep themselves close hidden, and go not forth to relief but by night; and as they grow bigger and bigger they harden in the Sun, they in the mean time making some proof of their strength against hard trees : and when they perceive them to be tough and strong enough, then they dare boldly go abroad, thinking themselves well armed now again: * *Pliny* saith, they can endure to swim thirty miles endways, and when they are to pass any great river to go to Rut in some isle or forrest, they assemble themselves together in herds; and knowing the strongest and best swimmer, they put him in the forefront, and then he which cometh the second stayeth up his head upon the back of the first, and all the rest in like manner even unto the last : but the foremost being weary, the second ever takes his place, and he goes back unto the hindmost.

*Gemin. lib. 3.
cap. 42.*

* *Lib. 8. c. 32.*

The said Authour also witnesseth, that the right horn of an Hart is of a soverain and precious virtue: and as a thing confessed of all, the Hart is known to fill up the number of many years; as was proved by the Harts of *Alexander*, caught about an hundred years after his death, with rings and collars on them shewing no less. Being hunted and ready to be taken by the Hounds, they will for their last refuge fly to houles and places of resort, choosing rather to yield unto man than dogs.

They go to Rut about the midst of *September*, and and at the end of eight months they bring forth young, sometimes two Calves at once; and these they practise to a nimble using of their legs from the very beginning; leading them up to high Rocks, and teaching them to leap, run, and fly away as occasion serveth. A fit emblem of careful Parents, who teach their children whilst

An emblem
from the Hart
shewing that
children
should be
taught be-
times.

whilst their years be green, instructing them betimes in the right way wherein they ought to walk; according to that of Solomon, *Train up a child in the way he should go: and when he is old he will not depart from it.* Prov. 22. 6.

Another.

Our eyes are opened in afflictions.

And again, in their flying to man when the hounds oppress them, they be fit emblems of those who fly to that God in the cloudy days of dark affliction, whom before they sought not after: for saith the Lord, *In their affliction they will seek me early.* And is it not often seen, that *Misery can open those eyes which happiness hath closed, and abate that tympany which prosperity hath ingendred?* Yes verily. For as the waters of the Sun, which *Curtius* mentions, are cold at noon when the Air is hottest, and hot at midnight when the Air is coldest; so is it with us: our zeal is coldest in the sun-shine of prosperity, but gathers heat when trouble cometh: And if trouble cannot do it, nothing can.

An other emblem concerning those who sorrow to part with earth: although they may gain heaven.

Moreover, this also is not impertinent. I have read of the Hart (saith one) that he weeps every year for the shedding of his head, though it be to make room for a better. So do I see the worldling go away sorrowful at this very saying, *Go, sell all that thou hast*, though it be for treasure in heaven: the reason of which is, because men do not look at what they are to have, but what they are to part with; and at any time will be for one bird in the hand, rather than five in the bush; yet slight it not, but mark it well; He that consults with his body for the saving of his soul, will never bring it to heaven: neither is it any harm to lose the worse for finding of the better, nor any thing in hand too dear for that happiness which is yet to come. No matter therefore though we sow in tears, so we may reap in joy: for as the difference between time and eternity is unspeakable; so it is also, betwixt heaven and earth.

Gemin. lib. 5.
Another emblem.

Also, this I likewise find, that when the Hart is * taken by the hounds, or any other device of the hunters, he

he will then shed forth tears as well as when he casteth his head. So should a penitent and a watchful sinner, who is careful to avoid the wiles of the devil, he should not cease to weep when he seeth how he is overtaken; for there is one on high who marks his tears, and puts them up into his bosome; always pleased to see a sorrowful bespotted soul baptized in the pearled drops of repentant dew. But to proceed.

Tragelaphus is a kind of Deer-goat, of which *Gesner* maketh two sorts; the first whereof hath horns like a Deer; the second like a Goat, but more crooked and bending backward.

There is likewise another beast, most common in the Northern parts; *Olani* calleth him the *Rangifer*; he also hath horns like a Deer, and on him men use to ride in stead of horses.

The common *Goats* are easily known; but the Syrian *Goats* are differing, having long flapping ears like a deep-mouthed hound: and of these three be two kinds, the greater and the less. Then again there is another Goat called the *Rock-goat*, differing from the rest; and as for the *Kid*, it is a young Goat, a sucker, or one newly taken from their dam.

The *Badger* fighteth upon his back, and so maketh use both of his teeth and claws: the *Fox* makes no den, but driveth away the *Badger* out of his, by pissing in it.

Sheep naturally be of a hot disposition, weak, tender, harmless, and so far from greediness, that they will live of less food than any other beast of their bigness. They be also pitiful amongst themselves; for when they perceive any one of their fellows to be sick and fainting through heat, they will stand together and keep away the Sun. The *Rams* and *Ewes* are fit for generation from two years of age until they be ten: neither do we find any thing, either in them, or without them, which is not of some good use and profit. And note that the *Ewes* bear their young ones in their bodies an hundred and

We should weep for sin, by the example of the Hart.

Tragelaphus.

The Rangifer

The Goat.

The Badger.

Sharp.

An emblem
from the
Lambs, con-
cerning those
who often pe-
rish by follow-
ing the steps
of the greatest
multitude.

and fifty dayes, and no longer, according to the com-
mon account. I have heard of sheep in some countreys
which have yellow fleeces; but here with us, they be al-
wayes either black, white, or of a colour near to a rus-
set. It is strange how in a great flock, every lamb should
know his own dam: and pretty sport is it, to see how
they will play, and skip up and down. Howbeit the
shepherds find much trouble in one property belong-
ing to these dancing creatures; for if one lamb chance
to skip into a river or ditch, the rest (if they be by)
will suddenly follow and do the like. In which they be
emblems of those, who will rather strive to do as the
most than as the best: and yet goodness goes not by
multitude; for the most are commonly the worst: nei-
ther is a way always to be chosen for the number or
quantity of companions, but for the quality; and better
is it to go to Heaven with strangers, than to hell with
our friends. *Dives* therefore would have sent from the
dead, to have it told his brethren. What? that the way
to happiness is to follow goodness, although it be but
grex pusillus, a small and little flock.

The Horse.

Mares are said to have their full increase in five years,
but the *Horse* not till six. And there be some who write
that an *Horse* should not be broken or tamed until two
years of age: and first of all he is to be rubbed and cha-
fed, and used with flattering and gentle words, his sta-
ble should be laid with stone, and by little and little he
must be used to go upon the stones that his feet might be
hardened. At the beginning let not him who shall sit or
break him be to rough, nor weary him with running, but
prove and turn him gently on both sides, and touch him
rather with the stick than spur.

They are said not only to have knowledge of their ri-
ders and keepers, but also of their generation and de-
scent, knowing their sires and dams in such wise, that
(as **Pliny* saith) they will refuse to couple or ingender
with them: which how true it is, the breeders of Horses

be

be the best witnesses. They be apt to learn, having a greater love to exercise than any other beast. Their courage and valour is infinite, and being once trained unto it, they take an exceeding delight in the wars, and will (as it were) prepare themselves man-like for the same. Neither hath it been but sometimes, and that not seldom known how they have * mourned for the loss or death of their masters: and how apt they be to endure labour, there is none but knoweth.

* *Plin. lib. 8. cap. 24.*

But to know a good Horse and his age, these be his marks. He should be of one colour, excepting some mark or star to grace him: his mane ought to be thick and standing up, his loins strong, his head short, his neck must be erect, his ears small according to the proportion of his head, a broad breast, a mean belly, short lips, a large tail, and somewhat curled, strait legs, and equal knees, stedfast hoofs and grofs, and yet not too bignor small, and in his legs not so much flesh as bone.

The marks of a good Horse.

As for his age, when he is two years old and an half, his middle teeth both above and beneath do fall; when he is three years old, he casteth those which be like unto dogs teeth, and bringeth forth new; before six, his upper double teeth do fall, and at six he supplieth his want again; at seven likewise he hath all equal, and from thence (some say) his teeth begin to be hollow: at ten his temples are also hollow, his teeth stick out, and his brows sometimes wax gray. But of this enough.

How to know the age of an Horse.

The *Gulen* or *Jersf* is a beast in the North parts of *Suecia*: *Olaus Magnus* hath largely described it in the eighteenth book of his Northern history, affirming that it is the most insatiable and devouring creature that is: for having killed his prey, or found some carcase, he feedeth without giving over, untill his belly be so full that it will hold no more, but strouteth out and is puffed up like a bag-pipe; then to ease himself, he thrusteth in between two narrow trees, and straineth out backwards that which he hath eaten, and so being made

The *Jersf*.
A fit emblem
against glut-
tony and
drunkencranks.

By Sir Richard
Hark in his
Summe Brevium.

empty, returneth again and filleth himself as before, and then straineth it out between the two trees, and returneth to the carcase to eat again: and thus he continueth until he hath devoured all: which being consumed, he hunteth after more, in this sort continually passing his life. Which beast (as is worthily * observed) is a fit emblem of those riotous and gluttonous men, who pass whole dayes and nights in eating and drinking; and when they have filled themselves so full that their bodies will hold no more, they vomit up what they have taken, and then return to their carousing cups and cheer again, as though this only were their felicity, and end for which the mighty God had made them. But let them know, that (although many live as if they came but into this world to make merry and away) ruine will follow riot: and it were well for such men, as they have lived like beasts, if they could likewise die like beasts, never to live again: but (alas) they cannot; here is their misery, that they onely leave their pleasures behind them, and not their sins. For when *Esau* sells his birth-right for a mess of pottage, he may wish for a blessing and not find it, although he seek with tears; or when *Balthasar* spends his time in damned quaffing, in stead of quenching his thirst, he may drown his soul: for unless there were weight in vanity, or substance in deceiving pleasure, these men put into the balance are found too light. Wherefore let not eating and drinking take away our stomachs to spiritual things, but let us eat to live, and live to praise the Lord.

The flesh of this *Jerf* is nothing wholesome for food, but their skins are precious, and used of great men so be worn in garments: and as for his name, the Natives call him *Jerf*, but in Latine he is *Gulo*, videlicet, à *gulositate*, from his gluttonous feeding.

And one thing more is yet observable. When the hunters come to catch him, they lay a fresh carcase in the place where he haunteth; that being filled, and as it were

were wedged in between his trees, they may set upon him and take him with ease. So is it often a wretched mans case, to perish by means of that wherein he took delight; and suddenly to be taken away, even whilst he follows his wonted course. But this is strange: for are men still ignorant, and yet to learn what this life is? It is a journey unto death, and every day doth make it shorter: and sometimes the nearer it commeth, the further we are from thinking of it. For security is a great enemy to prevention; and upon thought that we shall not die yet, it comes to pass that we seldom prepare to die at all.

Make not therefore the last first, and first last; lest by being caught in thy sins, neither first nor last thou come at heaven.

The *Gorgon*, or *Catoblepas* is for the most part bred in *Lybia* and *Hesperia*. It is a fearful and terrible beast to look upon, it hath eye-lids thick and high, eyes not very great, but fiery, and as it were of a bloody colour. He never useth to look directly forward, nor upward, but always down to the earth: and from his crown to his nose he hath a long hanging mane, by reason whereof his looks are fearful. Moreover, his feet are cloven, and his body all over as if it were full of scales. As for his meat, it is deadly and poysonful herbs; and if at any time this strange beast shall see a Bull or other creature whereof he is afraid, he presently causeth his mane to stand upright, and gaping wide he sendeth forth a horrible filthy breath, which infecteth and poysoneth the air over his head and about him, insomuch that such creatures as draw in the breath of that air, are grievously afflicted, and losing both voice and sight, they fall into deadly convulsions. *Topsell.*

Next unto which I may mention the *Cockatrice* or *Basilisk*, and so come to serpents. Now this is the King of serpents; not for his magnitude or greatness, but for his stately pace and magnanimous mind: for the

Another emblem, concerning those who are taken away in the very act of their sins.

The Gorgon.

The Basilisk.

head and half part of his body he alwayes carries upright, and bath a kind of crest like a crown upon his head. This creature is in thicknes as big as a mans wrist, and of length proportionable to that thicknes: his eyes are red in a kind of cloudy blacknes, as if fire were mixt with smoke. His poyson is a very hot and venomous poyson, drying up and scorching the grasse, as if it were burned, infecting the air round about him, so as no other creature can live near him: in which he is like to the *Gorgon*, whom last of all I mentioned.

* *Topf. Hist. of
serpents, p. 123*

And amongst all living Creatures, there is none that perisheth sooner by the poyson of a Cockatrice, than man; for with his sight he killeth him: which is, * because the beams of the Cockatrices eyes do corrupt the visible spirit of a man, as is affirmed; which being corrupted, all the other spirits of life coming from the heart and brain, are thereby corrupted also; and so the man dieth. His hissing likewise is said to be as bad, in regard that it blasteth trees, killeth birds, &c. by poisoning of the air. If any thing be slain by it, the same also proveth venomous to such as touch it: only a Weasel kills it; as in the description of that beast I have already shewed.

* *Idem. Ibid.*

That they be bred out of an egge, laid by an old cock, is scarce credible: howbeit, * some affirm with great confidence, that when the cock waxeth old, and ceaseth to tread his hens any longer, there groweth in him, of his corrupted seed, a little egge with a thin film in stead of a shell, and this being hatched by the Toad, or some such like creature, bringeth forth a venomous worm, although not this Basilisk, that King of Serpents. *Pliny* describeth the Cockatrice not to be above twelve inches long, in which regard Mr *Topf* thinketh this not to be the main and great Cockatrice, but rather that worm bred out of the former egge: wherein I with every mans judgment to be his own.

Yet

Yet though this be a nocuous creature, it much magnifieth the power of God, in being able to make such a one by the power of his word: and as for us, both concerning this and all other hurtfull things, to us (I say) is shewn the miserable condition which sin hath made us subjects to; for before they might have been *Adams* play-fellows, all at his beck, at his service and command, none having power to hurt him, because there was nothing in him then for harm to work upon. But to proceed.

A note concerning nocuous creatures.

The *Beas* is a Serpent of an extraordinary bigness; it can swallow down a little child whole without breaking any bone: for as *Topsell* writeth out of *Solimus*, in the dayes of *Claudius* the Emperour, there was such a one taken at *Rome* with a Child in his belly.

The Beas.

The Latines call it *Bea* and *Bova*, from *Bos*, because it desireth (and so do all Snakes and Adders) to suck the milk of Cows, insomuch that he will never kill them until their milk be dried up: and then he will eat their flesh, as before he had sucked their milk.

The *Dragon* is the greatest of all serpents, as some write; and hath sharp teeth set like a saw, but his strength resteth in his tail rather than in his teeth; and therefore when he fights with the Elephant, he claspeth close about his legs: and sometimes he killeth him, but most commonly both die together; the Elephant for want of blood, and the Dragon through too great fill of blood, or else by the weight of the Elephants body falling on him.

The Dragon

He is sometimes in the * waters, and lieth often in his den; he sleepeth seldom, but watcheth almost continually; he devourerh beasts and fowls; and for his eye-sight, it is very sharp, so that in the mountains he seeth his prey afar off. He is bred most commonly in *India* and *Ethiopia*, his greatest payson being

* *Monst. Epis.*
Cf.

being in his tongue and gall: wherefore the Ethiopians cut away the tongue and eat the flesh. *Munst. Cosm.*

Pliny saith that through the strength of poyson in his tongue, it is always lift up; and sometimes through the heat of the said poyson lurking there, his breath is so hot as if he breathed fire, by which contagious blast he * sometimes so tainteth the air, that the pestilence proceedeth thereof. His wings will carry him to seek his prey, when and where occasion serveth.

* *Munst.*

The Dipsas.

The *Dipsas* is another kind of Serpent, and those whom he stingeth die with thirst.

Hypnale.

But those whom the *Hypnale* stingeth, die with sleep.

Prester.

Such as are stung by the *Prester*, die with swelling.

Hamorrhoids.

And the wounds of the *Hamorrhoids* procure unflanchable bleeding.

The Dart.

The *Dart* taketh name from his swift darting or leaping upon a man to wound and kill him. His use and custom is to get up into Trees and Hedges, and suddenly to dart from thence.

The Amphisbena.

The *Amphisbena* or *Double-head*, goeth both wayes, or moveth circularly with crooked windings, because he hath two heads and no tail, having a head at both ends: which (saith * one) is a fit emblem of popular sedition; for where the people vwill rule their Prince, needs must their motion be crooked; and where there be two heads, it is as if there were no head at all. *Africa* aboundeth with these, and sundry the other serpents.

* *Purch.*

An emblem concerning government.

Ceraustes.

Ceraustes is a Serpent bred also in *Africa*, having two horns on his head, in manner of a snail, and from thence it is that he taketh his name, being called by the Grecians *κέραια*, that is to say, *horned*. He is about a cubit in length, and of a fable colour. His biting for the most part is incurable: and with his horns he can fashion out (as it were) a little coronet, whereby he * allureth the birds unto him, and then (lying hidden in the sands, all but the head) he cunningly devourerh them. *Solimus*, and

* *Purch.*

and some others say, he hath not only two, but four horns; as may be seen in *Pliny, lib. 8. cap. 23.*

The *Viper* hath a body long and slender, like an Eel or Snake; a broad head, red and flaming eyes: and as for his teeth, they be inclosed (as it were) in a little bladder, in which he carrieth his poyson, from thence infusing it into the wound which he hath bitten. * Some Authors write, that when the Vipers ingender, the male putteth his head into the females mouth, which she (being overcome with the pleasure of copulation) biteth off; affirming moreover, that their young use to gnaw themselves out of their dams bellies, there being thereby an end both of male and female, the one in the time of conception, the other in the time of birth, and are therefore called *Vipers*, viz. *à vi pariendo*: but others alledge the testimony of one *James Grevin*, who, in the seventh chapter of his first book of Venims, produceth the witness of * *Aristotle*, saying that the Viper putteth forth her young ones, infolded in a membrane, which breaketh about the third day; and also that sometimes those which are within the belly issue forth, having gnawed asunder the foresaid membrane.

The *Slow worm* hath dark eyes and dull ears, and can hear or see but little. His skin is thick, his colour is of a pale blew, intermixed on the sides, with some few blackish spots: he seldom hurteth, unless by chance he be provoked.

As for the *Snake*, *Adder*, and such like, they be common amongst us; and so is that other already mentioned; viz. the *Slow worm*. Howbeit we find that the *Adder* is a crafty and a subtil creature, biting suddenly the passers by; whereupon *Jacob* said that his son *Dan* should be *Cobler in via*, Gen. 49.

This, and other Serpents, who change their coats when they cast off their skins, do first of all by fasting make their flesh low and abated, and then by sliding through a narrow passage, they slip them off. Which may

The Viper.

* *Plin. lib. 10. cap. 68.*

* *Nist. anim. lib. 5. cap. ult.*

The Slow-worm.

The Adder.

An emblem
from the Ad-
der casting his
skin, concern-
ing the benefit
of abstinence
and fasting. if
it be rightly
used.

African
Snakes and
Adders.

A great Ser-
pent.

Lib. 6. c. 3.

may be a fit emblem of those, who when they go about to cast off their old and former sins, know that an humbling of themselves before God, in abstinence and fasting, is very good, and a great help to fit them for repentance : for it is certain, that if our belly be our god, then *gula* doth not only make way for *Galen*, and *Bacchus* for *Esculapius*; but even for *Tophet* also. Whereupon we find, that *Dives* in hell was not upbraided only because he fared *deliciously*, but because it was *every day*. And how hard a thing it is for a man to serve any other god than his belly, who is continually used to stuff his paunch, the common practices of careless livers make apparent; for whilst they sleep, and eat, and play, they never think of heaven, nor can be fitted to slip off their old sins : but on the contrary, a retired humbleness will make them both fearful and careful how they walk. Blame not *Paul* then if this be part of his boasting, that he could out-fast, or out-watch the rest of the Apostles : for (saith *S. Hierom*) *Ardentes diaboli sagitta, jejuniorum & vigiliarum frigore restinguende sunt.*

Mr. *Purchas* writeth that they have Snakes and Adders in *Africa*, whereof some are called *Imbumas*, five and twenty spans long living in land and water, not venomous but ravenous, whose custom is to lurk in trees, waiting there for their prey; and having taken it, they devour horns, hoots, and all, although it be a Hart: and then swollen with this so huge a meal, they be as it were, drunk and sleepy, and altogether unwieldy for the space of five or six dayes. Moreover he affirmeth that the Pagan Negroes roast and eat them as great dainties.

* *Anlus Gellius* sheweth how *Atilius Regulus*, the Roman Consul, in the first Punick war, encountered with a huge serpent at the river *Bagrada*, being forced to plant his engines and artillery against him; and killing him, his skin was sent to *Rome* for a Monument, being no less than 120 foot in length.

In

In the Kingdom of Congo be certain great Dragons with wings, in bigness like to rams, having long tails, and in their chaps divers jaws of teeth, of blew and green colour; they have two feet, and feed on flesh.

Dragons in Congo.

The Pagon Negroes * pray to them as Gods, for which cause the great Lords of the Country keep them, that thereby they may make a gain of the peoples devotion when they offer their gifts and oblations.

* *Parcb.*

The *Scorpion* is a venomous insect, somewhat fashioned like a Crab, Lobster, or Creyfish; they have many legs, and carry their stings in their tails: sometimes they eat their young ones, and are of divers colours; the female is the biggest, and hath the sharpest sting. And note, that of the *Scorpion* is made an oyl which is good against the stinging of *Scorpions*; and so are love-sick youngsters cured; for when nothing will help him, they may again be healed by enjoying her who gave the wound.

The Scorpion.

The *Asp* is something like a land-snake, but with a broader back; their eyes are red and flaming, and out of their foreheads grow two pieces of flesh like an hard skin: and for their poyson, it is in a manner incurable. *Pliny* writeth that they go always two and two together, and if one of them be slain, the other will follow eagerly, and seek up and down after him that slew his mate: but it is the * providence of God Almighty to give as many remedies against evil, as there be evils in the world. For the dulness of this Serpents sight, and slowness of her pace, doth keep her from many mischiefs which otherwise would be done. The best way to cure their stings, is presently to cut off the member bitten.

The Asp.

* *Plin. lib. 9. cap. 21.*

* *Top/sal.*

There be * they who make three sorts of them; that is to say, the *Terrestrial* (five handfuls long) the *Hirundiner* (coloured like a Swallow, and is but a handful long) and last of all the *Spitter*, greater than the other. Their biting causeth death within few hours: that of the *Hirundiner* is sudden, of the *Spitter* somewhat slower, beginning first with a dimness or trouble in

* See the Author of *Du Bass. Summary.*

the eyes, then with a swelling in the face, after that it proceedeth to a deafness, and last of all it bringeth death.

Calius Rhodiginus writeth that the Kings of *Egypt* did wear the pictures of Asps in their crowns, whereby they signified the invincible power of principality in this creature, whole wounds cannot easily be cured; making it thereby an emblem of the power and wrath of a King: and the Priests of *Egypt* and those of *Ethiopia* did likewise wear very long caps, having towards their top a thing like a navel, about which were the forms of winding Asps; to signifie to the people, that those who resist God and the King, shall perish by unresistable violence. *Topfell.*

The Chameleon.

The *Chameleons* are admirable for their aiery substance, and for the changeableness of their colours; or (if you will) for their aiery substance, although they sometimes hunt and eat flies. He is of the form and greatness of a Lizzard, but hath higher Legs: his ribs joyn in his belly as in fishes, his muzzle is long, and his tail small towards the end, and turning inwards; his skin is rough, his eyes hollow, and his nails crooked; and when he moves himself, he crawleth slowly like a Tortoise. See *Plin.* in his 8 book, chap. 33.

His tongue is almost half a foot long, which he can dart forth as swiftly as an arrow shot from a bow; it hath a big knot on the tip thereof, and is as catching and holding as glue; which when he darteth forth, he can fasten to the Grass-hoppers, Caterpillars, and Flies, thereby drawing them down into his throat.

Why the Chameleon changeth colour.

He changeth into all and every colour, excepting white and red; whereof there be divers opinions: some think that he changeth through fear; but this is not like, for though fear alter the colour, as we, when we are afraid, wax wan and pale, yet it will not change the body into every colour: others think that by reason of his transparency he taketh colour from those things which are

are near him, as the fish called *Polypus* taketh the similitude of the rocks and stones, vvhether he lieth to deceive the fish: and some again joyn both together, for the Chameleon being in fear, swelleth by drawing in the air, and then his skin being thereby pent, is the smooother and the apter to receive the impression of the colours of things objected; agreeing in this to that of *Aristotle*, saying, that his colour is changed being putt up vvith mind. But be the cause from vvhencc it vvill, it affordeth a fit emblem or lively representation of flatterers, and time servers, who fit themselves for all companions, times, and occasions, flattering any one, thereby to make fit use of every one.

An emblem
against flattery

The *Lizard* is a little Creature much like the Ewe, but without poyson, breeding in *Italy* and in many other Countries; the dung of which Beast cleareth the sight and taketh away spots in the eye: the head thereof being bruised and applied, will draw out a thorn or any other thing sticking in the flesh.

The Lizard.

The *Salamander* is a small venomous Beast with four feet, and a short tail; it doth somewhat resemble the shape of a Lizzard, according to *Pliny*, *Lib. 10. cap. 67*. And as for his constitution, it is so cold, that (like ice) if he do but touch the fire, he puts it out. They be common in *India*, in the Isle of *Madagascar*; as *Mr. Purchas* alledge, where he treateth of the Creatures, Planets, and fruits of *India*.

The Salamander.

But stay it is time to stop: I know not how to mention every thing; yet there is nothing which is not worthy admiration. I made (I must confess) as much haste as I could, and yet methinks I see both these, and thousands more, run from me flocking altogether, as if they meant to dance attendance now on Mans creation; and not only shew to him their due obedience and humble welcom into the vvorld, his stately Palace, but also vvait to have their names according to their natures. For *whatsoever* Adam called every living creature, that was (saith *Moses*) the name thereof.

The conclusion
of the first
Section.

Gen. 2. 19.

* Hug. in di-
dasc. lib. 1.

Let us now then come to him, for whose sake all things else were made : for God made the World for Man, and Man for himself. It was therefore a dainty fancy of * one, who brought in the World speaking to Man after this manner. *Vide homo, dicat Mundus, quomodo amavit te, qui propter te fecit me. Servio tibi, quia factus sum propter te, ut servias illi qui fecit & me & te ; me propter te, & te propter se. See oh man (saith the World) how he hath loved thee, who made me for thee. I serve thee, because I am made for thee, that thou mayst serve him who made both me and thee ; me for thee, and thee for himself. This I will therefore add,*

*Herbs cure our flesh : for us the winds do blow,
The earth doth rest, heav'n's move, and fountains flow.
United water round the world about
Ship us new Treasures, Kingdoms to find out.
The lower give us drink ; the higher meat,
By dropping on the ground nigh parcht with heat.
Night Curtains draws, the Stars have us to bed
When Phœbus sets, and day doth hide his head.
One world is Man, another doth attend him ;
He treads on that which oft-times doth befriend him.
Grant therefore (Lord) that as the world serves me,
I may a Servant to thy greatness be.*

SECT. 2.

The Creation of Man, being created Male and Female, and made according to the image of God : together with the institution of Marriage, and blessing given to that estate.

THough Mankind were the last; yet not the least. God only spake his powerful word, and then the other Creatures were produced ; but now he calls a council and doth consult, not out of need, but rather to shew the excellency of his work ; or indeed, to shew himself :
he

he speaks not therefore to the Angels, but the Trinity, saying, *Let us make Man*. Wherein the Father, as the first in order, speaketh to the Son and holy Spirit : and the Son and Spirit, speak and decree it with the Father : and the Father, Son, and Holy Ghost, all three in One, and One in Three, create a creature to be the other creatures lord. He was therefore the last, as the end of all the rest ; the last in execution, but first in intention ; the Map, Epitome, and Compendium of what was made before him.

Three worlds there are, and Mankind is the fourth : The first is Elementary ; the second a Celestial world ; the third Angelical ; and the fourth is Man, the little world. In the first is *ignis urens, a burning fire* : and this in the heavens, is *ignis fovens, a nourishing and quickning fire* : but in those creatures above, seated in the super-celestial world, it is *ignis ardens, & amor Seraphicus ; an ardent, burning, and Seraphical love* : and in the fourth are all these found at once. For first, as mans body is compounded of the Elements, he hath his share of that warm fire in him. The influence of the Planets working on him, doth likewise shew the second. And for the third, their hearts who burn within them, do declare it.

Neither was he made like other creatures, with a grovelling look, or downward countenance, but with an erected visage beholding the heavens, and with lordly looks well mixt with majesty.

He hath a body whose members are either *Principall* and *Radicall*, or else *Less Principall* and *Officiall*.

His heart, liver, and brain, contain the vital, natural, and animal spirits ; and these are carried by the arteries, veins, and nerves. The arteries carry the vital spirits from the heart. The veins carry the natural spirits from the liver, giving nourishment to every part. And the nerves carry the animal spirits from the brain, being spirits for sense and motion, and therefore called *animal spirits* :

The spirits,
heart, liver,
brain, arteries,
veins, and...
nerves.

The veins and
the arteries go
together.

Passions have
their seat in
the heart.

The humours
stir up the pas-
sions.

The heart li-
veth first, and
dieth last.

The head.

spirits: howbeit, the motive nerves spring from the marrow in the back, and ~~in~~ the sensitive come from the brain. Also know, that under every vein is an artery: for, wheresoever there goeth a vein to give nutriment, there goeth an artery to bring the spirit of life. Neither is it but that the arteries lie deeper in the flesh than the veins, because they carry and keep them in more precious blood than the veins keep; and are therefore, not only further from outward dangers, but clothed also in two coats, whereas they veins have but one. Whereupon it is no hard thing to distinguish between these two vessels of blood, if we can but remember that the artery is a vessel of blood spiritual or vital; and the vein, a vessel of blood nutrimental: for (as I said before) the veins have their beginning from the liver, bringing from thence nutritive blood to nourish every member of the body.

Moreover, his heart is the seat of all passions; as in one instance may suffice: for being transported with fear, we call back the blood to the heart, as to the place where fear prevaileth, the blood going thither (as it were) to comfort and cherish the heart. And whereas it may seem that our anger is seated in the gall, love in the liver, and melancholly in the spleen: it is answered, that those humours placed in the gall, liver, and spleen, are not the seat of the passions and affections; but they are the occasion whereby the passions are stirred up: as the abundance of blood in the liver, stirreth up the passion of love, which nevertheless is placed and seated in the heart: and so of the rest.

And again, seeing the vital spirits proceed from the heart, it cannot be denied, but that this member liveth first, and dieth last.

And as the heart was the seat of all passions, so the head is a seat and place for all the senses, except the touch; for that is not only in one place, but in all and every place, being spread quite through the whole body or isle of man.

The

The eyes are the windows of the body ; and albeit *The eyes.*
a man have two eyes in his head, yet he receiveth but
one sight at once , because the optick nerves meet both
in one.

The ears be like certain doors , with Labyrinthical *The ears.*
entries, and crooked windings : and here again, although
the ears be two , yet a man can hear but one sound at
once , because his *acoustick* nerves (like to the optick
nerves) meet both in one.

His tongue discerneth tastes : and albeit he have two *The tongue.*
eyes, and as many ears, yet his tongue is single and alone.
A man should therefore hear and see more than he speak-
eth : and when he speaketh, not wrong his heart and secret
words, by uttering thoughts with a double tongue : for
bilingualis is more than God made him ; and double tongues
shall be rooted out. Besides, the lungs be the bellows of
The lungs.
the voice, and are seated close to the heart : to teach us,
that speech ought to be the interpreter of the heart, and
not that a man may speak one thing and think ano-
ther

The nose serveth not only as a gutter for the excre- *The nose.*
ments of the brain to flow and pass through , but also
for a pipe of respiration to give and take our living
breath, and to conduct the air, and odoriferous sinells up
to the brain, for the conservation and recreation of the
animal spirits.

When the head is in danger, the hand casts it self up *The hand.*
to save it. And in giving hands to man, the special pro-
vidence of God is to be marked : for he hath made him
take his meat with his hand , and hath not left him to ga-
ther and take it up with his lips, as the beasts do ; because
that would be a means to hinder his speech by thicken-
ing his lips : as experience teacheth in those, who either
by nature, or by accident, have chick swollen lips cau-
sing them to speak in the mouth, uttering their words
very badly, and indistinctly. Neither could there be so
many quick conceits of the mind, or curious inventions
of

of sundry artists, brought to perfection, without such an instrumental help as the hand.

The feet.

The feet be the bases of the body, carrying man like a lordly creature, with his face from earth, and eyes to heaven; that he might thither strive to come at last, where he inhabiteth who gave him these, and all his other members else, which now I cannot stand to dilate upon at large. And when he had them all, and was framed out like a curious piece, *God breathed in his nostrils the breath of life, and man became a living soul*: he then took his second part, when his first was finished, neither was that second made till then; for in the infusion it was created, and in the creation it was infused, to be the dweller in that house built out of clay, and reared from the dust.

The soul.

How Man
was made ac-
cording to
Gods image.

And in this last piece, God stamp't his image: for it consisted not in the figure of the body any otherwise than as the organ of the soul, and in that regard being a weapon with it unto righteousness, it had some shadow thereof. For, to put all out of doubt, the Apostle sheweth how we are to understand the image of God in man; in one place speaking thus, *which after God is created in righteousness and true holiness*, Ephes. 4. 24. And in another place, *Put on the new man, which is renewed in knowledge, after the image of him who created him*, Col. 3. 10. By which it appeareth that this image consisteth, not so much in any resemblance between the substance of the soul and the essence of God (though both be immortal) nor yet in the natural faculties thereof, as of understanding, will, and memory, taken as emblems of the Trinity; but in the knowledge and illumination, holiness and justice of the soul, which are now wrought in man by grace, and then were given by creation. For that image is now lost, and cannot be had till it be renewed: but the substance of the reasonable soul, with the natural faculties and powers thereof are not lost, therefore therein is not expressed this image according to which mankind

mankind was made. Mankind, and not man alone : for *Moses* addeth, that *male and female created he them* ; to shew that Woman as well as man, was partaker of the same image : the last that had it, and yet the first that lost it ; for though she were the last in creation, yet the first in transgression as the Scripture speaketh.

But perhaps you will think the Apostle denieth this, saying, *The Man is the image and glory of God, but the woman is the glory of the Man.* In which it must be considered, that the Apostle denieth not the woman, as she is a Creature, to be made in the image of God ; but speaking as she is a Wife, and considering of them by themselves, he then is more honourable and must have the pre-eminence ; in which, the Woman is rightly called the glory of the Man, because she was made for him, and put in subjection to him.

Woman made according to the image of God, as well as man.

1 Cor. 11. 17.

How woman is the glory of the man.

*A Womans rule should be in such a fashion,
Only to guide her household, and her passion:
And her obedience is never out of season,
So long as either Husband lasts, or reason.
Ill thrives the hapless family, that shows
A Cock that's sient, and a Hen that crows.
I know not which live more unnatural lives,
Obeying Husbands, or commanding wives.*

Quarl. upon
Ester, Aed. 3.

But to come more nearly to the Creation of Woman ; she was made whilst *Adam* slept : For when he had named the Beasts according to their natures, he was cast into a sleep : and, that God might find a help meet for him, he takes a help out of him ; performing it rather sleeping than waking, that neither *Adams* sight might be offended, in seeing his side to be opened, and a rib taken forth, nor yet his sense of feeling oppressed with the grief thereof : and therefore it is said, *God caused, not a sleep, but an heavy sleep to fall upon man, and he slept.* Which in a mystery signified that deadly sleep of the

second. *Adam* upon the Cross, whose stripes were our healing and building up again, whose death was our life, and out of whose bleeding side was by a divine dispensation framed his spouse the Church.

It was then from the side of Man that the Woman came, builded out of a rib taken from thence: not made out of any part of his head, which (if we seek the meaning in a mystery) shews that she must not overtop or rule her Husband: nor yet made out of any part of his foot, to shew that man may not use her as he pleaseth, not trample or contemn her: but made out of a rib, taken from his side, and near his heart, that thereby he might remember to nourish, love, and cherish her, and use her like bone of his bone, and flesh of his flesh.

* Purch. Tom.
1. 1. 1. cap 3.

And being thus made, she is married to *Adam* by God himself, who brought her unto him, to shew (saith * one) the sacred authority of marriage, and of Parents in marriage: a mutual consent and gratulation followeth likewise between the Parties, lest any one should tyrannically abuse his fatherly power, and force a marriage without either love or liking. And thus are two made one flesh; in regard of one original, equal right, mutual consent, and bodily conjunction.

Quart. *ibid.*

*Flesh of his flesh, and bone made of his bone
He framed Woman, making two of one
But broke in two, he did a new ordain
That these same two should be made one again:
Till singling death this sacred knot undo,
And part this new-made one, once more in two.
Yet since of rib first framed was a Wife,
Let ribs be Hieroglyphicks of their life
Ribs coast the heart, and guard it round about,
And like a trusty watch keep danger out;
So tender it owes should loyally impart
Their watchful care to fence their Sponser's heart.*

All

*All members else from out their places rove,
 But ribs are firmly fixt, and seldom move :
 Women (like ribs) must keep their wonted home,
 And not (like Dinah that was ravish't) rove.
 If ribs be over-bent, or handled rough,
 They break; if let alone, they bend enough :
 Women must (unconstrain'd) be pliant still,
 And gently bending to their Husbands will.
 The sacred Academy of Mans life,
 Is holy wedlock in a happy wife.*

And being thus made and married, they are blessed with the benediction of increase and multiply; and were without doubt a very glorious pair, and goodly couple, having neither fault to hide, nor shame: and yet not so much glorious in the ornaments of beauty (which made them each to other amiable) as in the majesty and sovereign power ingrafted in them, to cause the Creatures with an awful fear and respective dread, come gently to them, submitting like subjects to their King. For (as one truly speaketh)

*Him he made
 The Sov'raign Lord of all; him all obey'd,
 Yielding their lives (as tribute) to their King;
 Both Fish, and Bird, and beast, and every thing.*

*Quart upon
 Esther, Med. 3.*

Naked these couple were, but not ashamed; and yet not impudent or shameless Creatures: for shame is the fruit of sin; and therefore before sin entred, this nakedness of their bodies shewed the nakedness and simplicity of their minds. All which continued, till the fly envies of subtil Satan buzzed in their ears a cunningly deceiving note, and tainted their eyes with curiosity. For the fairness of the apple help'd to hatch the foulness of the fault, gave longing to the palate, and action to the hand, to reach and convey it to the curious taste; and yet the taste could not then discern, how death and it went together.

And now for the day of *Adams* fall : it is doubted by some whether it were on the day of his Creation, or not rather some days after. They that are for the first, alledge these Reasons.

First, Satan was a murderer from the beginning, and therefore he delayed no time to purchase mans misery.

Secondly, it was the sixth day that man was created, even as on the sixth day he was redeemed. By which it appeareth that he fell on the very day of his Creation.

• Upon *Matth*
chap. 27.

Whereupon * *Theophylact* observing, saith, *sexta die homo est conditus, qui & sexta hora de ligno comedit: sexta quoque die & Sexta hora Christus cruci est affixus: Qua igitur hora Dominus hominem condidit eadem & lapsus curavit.* By which he meaneth, that as Man was formed the sixth day, and did eat of the Tree the sixth hour : so Christ reforming Man, and healing the fall, was fastned to the Tree the sixth day and sixth hour. And hence also came that common saying concerning *Adam*, that * in one and the same day he was formed and deformed, not continuing in righteousness and true holiness until the Sabbath: for then (as some observe) he would have performed the Ordinances of the Sabbath, which was to have eaten of the Tree of life, and so have lived for ever, being never guilty of that fall whose ach even yet the Sons of *Adam* feel.

• Brought.
Concens.

Thirdly, *Moses* making mention of many times, would never have omitted this time of the fall, except it had been presently after the Creation. *Cedrenus* therefore saith, that *Adam* fell the sixth day of the first week.

Fourthly, it must be granted that *Adam* fell before ever he knew his Wife: otherwise *Cain* had been conceived without sin, because presently after the Man and Woman were made, God said, increase and multiply; as in *Gen. 1. 28.* is manifest. But it is a thing not to be imagined that *Cain* was conceived without sin; neither is it true (as far as can be found) that *Adam* accompanied with his Wife, until after he was cast out of Paradise.

radice. Nor doth St. *Austin* but say, that the Woman straightway after her Creation, before she accompanied with *Adam*, became into the Transgression; otherwise *Cain* had been conceived without sin. *Eve* therefore and *Mary* may well be compared together; as thus: *Eve* being a Virgin, hearing the words of the Serpent and believing them, brought forth death: the Virgin *Mary* hearing the words of the Angel, and believing them, brought forth life; as *Chrysostome* speaketh. Such is their resemblance; and it serveth fitly to teach us that the fall was soon after the Creation, even whilst *Eve* (as well as *Mary*) was a Virgin.

Fifthly, to this purpose is that place in the nine and fortieth *Psalms*, at the thirteenth verse, very congruous. viz. that *Adam* lodged not one night in honour. For so saith Doctor *Uillet*, do the words signifie, if they be properly translated. As for example, the word (saith he) is *lun*, which signifieth to lodge, or stay all night; which by divers of the Rabbins is expounded of *Adam*, who continued not one night in Paradise, but fell on the self-same day of his Creation; which for the time of the year seems to be no further from the Spring, than the Promise of *Christ* was after this Fall.

Finally, the bare narration sheweth, that no famous action went between the Commandment and the Fall. And therefore in all likelihood it was on Friday, the Sixth day of the first Week.

But should I subscribe to this opinion for these Reasons, as heretofore I have done, I should decline from that which (being well weighed) seems to make much against it. For not only was there a multitude and variety of things done on the day that Man was made, both before and after his Creation: but also the Text it self concludeth the very sixth day with these words; And God be held all that he had made, and loe it was exceeding good: And the evening and the morning were the sixth day. Gen. 1. 31.

Willet on
Gen. cap. 3.
quest. 31.

More

* Gen. 3. 8.

More like it therefore is, that *Adam* fell on the fourteenth day of his Creation, which was on the twelfth day of *May* toward evening, when the fourteenth day of the first Month was ending, and the fifteenth (which, in the year of the Julian Period 710, was on the sixth day of the week) ready to begin: which time and day agree very well to the institution of the first Passover, *Exod. 12.* as also to the eating of the last Passover, and crucifying of *Christ* on the sixth day of the Week, and fifteenth day of the Month. For, on that day *Christ* died, even as on that day (4033 years before) *Christ* was promised to *Adam*, who had fallen as it were the day before, towards evening; as already hath been said.

This is that which I think now to be more probable, than to say (as heretofore) that man fell on the very day that he was created. But however, let the Reader chuse which opinion he liketh best, weighing well the reasons on either side.

And now after this time of *Adams* fall, both he and his posterity (for a good while together) had many years of life: the longest liver was *Methuselah*; and the shortest of any before the flood was *Lamech*. *Adam* had 930 years, which wants so much of a thousand as is the ordinary term of a mans life in these latter dayes. And note that when this first Father died, *Seth* was 800 years old, *Enos* 695, *Kenan* 605, *Mahalaheel* 333, *Jared* 470, *Enoch* 308, *Methuselah* 243, and *Lamech* 56. *Noah* was not born until 127 years after. And as concerning *Eve*, (if it be true which some have written) she lived beyond the age of her husband, by the space of ten whole years.

*A. Sed. ex
Mar. Secso.*

But were not these years of theirs shorter than ours? I answer, no. And yet upon such a supposition of being shorter, three strange opinions have been broached. 1. Some have thought that the years of the ancient Patriarchs were of no longer continuance than one of our

our Lunar months ; grounding this as an observation agreeable to the practice of the *Egyptians*, who in times past are supposed to have reckoned thus. 2. Others say, that three of our Months made up with them a full and compleat year : by means whereof one of our years should jump just with four of theirs. And a third fancy is, that ten years in those times, were no longer than one year now.

But that all these are weak and childish thoughts shall well appear. For,

First, If each several Moon, accounted from one conjunction to another, made up a full and compleat year, then it must needs follow that men in this present age, when the World is known to be old, do live longer than in those dayes when all things were in their full strength : which cannot be ; because the condition of their bodies was not then decayed, nor the air corrupted, nor intemperance used, nor the fruits of the earth of a feeble nourishment : all which are the friends and companions of a long-lasting life. And such friendly companions do we want, but they enjoyed them all. For first *Adam* was the immediate work of God ; and being come (as it were) newly from the shop of his Creator, he could not be like an house built of rotten timber or mouldring stone, but of a far stronger constitution than this weak age affords. And therefore he begat no such Pygmies as are now, whose strongest ones are in a manner but as reeds compared to the Cedars of those times, whose bodies were never wasted with succession of sicknesses, nor weakened with diseases, but very well able to continue a long time, yea, and well armed to resist such few things as were then contrary to health. For there was a great gap of time sure from the dayes of *Adam* to the dayes of *Galen* : and yet I find it witnessed by Authors, that in late times, no longer ago than the dayes of * *Galen*, men were of such able bodies that they would ordinarily bleed

The first opinion refuted.

* He flourish
ed about the
year of our
Lord 140.

bleed to the value of six pound weight ; whereas now, six or eight ounces (saith a learned Knight in his History of the World) is (for the most part) found to be sufficient : a great argument to prove the strength of their bodies which have been before us, and the weakness of ours. Secondly, in the Worlds first age they had a thin and pure air, not as then corrupted with vapours or terrene Exhalations, such as after times were pestred with, when once the Flood had sopt the earth and drenched it with overflowings. And thirdly, their manner of life and education differed much from ours ; which must needs prove theirs longer. For their tender Infants were not so tenderly brought up : wastful riot was a stranger to them, and mixture of meats as then unknown ; by means whereof Nature was never oppressed with over-weighty burdens, nor forced to reel and stagger with her load. *Gula* made then no way for *Galen*, nor *Bacchus* for *Esculapius*, which now in truth we cannot say : nor is there length of days to such as these ; for as *plures pereunt gula quam gladio*, so even the earth it self is oftentimes a friend to cover the faults bold Empericks commit. And fourthly the fruits of the Earth were much more nourishable and healthful before the Flood than afterwards : For through the salt Waters of the great deep the Earth became, not only less fertile than before, but also the fruits of the ground were much infeebled in their vigour, and made more unfit for sustenance.

All which considered, there can be no possibility that our lives should be either as long or longer than theirs : and yet they cannot but be so, if the space between one Conjunction of the Moon and another be the just length of their year. As for example :

Methuselah was the longest liver of any one amongst them, and his years are recorded to be 969 : which number will amount but to fourscore of our years and nine months, if we admit of such a Lunar reckoning. Again

gain. *Adam* lived nine hundred and thirty years ; which nine hundred and thirty will make but 77 and some odd dayes for the whole time of *Adams* life. Further, *Seth* lived 912 years ; which 912, by this means, will be but seventy and six. *Enos* had 905 ; which make but 75 and five months. *Kenan* had 910, which make but 75 and ten months ; and so proportionably of the rest : By which it appeareth , that not any of the Patriarchs (except *Methuselah*) could attain to 80 years ; beyond which many in our dayes have lived : yea, and by this Lunar reckoning, how old I pray you were they when they begat their Children ? surely even Children themselves ; as afterwards shall better appear.

But secondly (sith one month will not) let us see whether three months will serve them for a year : For such is the phancy of some, which is every jot as bad a tenet as the other. For did not the Ark rest it self upon the Mountains of *Ararat* the seventh Month, on the seventeenth day of the Month ? And also, did not the Waters decrease until the tenth Month ; upon the first day whereof the Mountain tops appeared ? Which being so, they are soon answered whose idle brains doat about either one Month, or three Months, in one of the Patriarchs years : for we see, not only the Seventh Month, but the Tenth Month mentioned : and not only the first day of a Month, but the Seventeenth day also. And indeed, though it were frequent among the Jews to reckon their Months by the course of the Moon ; yet it is plain enough, that they had also a year of dayes, consisting of Twelve Months, according to the course of the Sun. Whereupon I may not omit what is observed by Expositors ; namely, that a year hath the name in Hebrew from *shanah* , signifying a *Changing* or *Iteration* ; which is in regard of the Suns returning, after a years end, to the same point of Heaven where it first began. And as for the circuit of the Moon, which commonly we term a Month, it is derived (say they) of another

O o o

word

The 2d. opinion refuted.

Gen. 8. 4. 5.
See also v. 14.

Gib. on Gen.
chap. 1. quest.
2. *Ans*/worib
on Gen. chap.
2. ver. 14.

word signifying to *Renew* ; because, in that space, the Moon again is renewed. Neither is it found in any place of Scripture, that these names are the one of them taken to signify the other ; but by the one is meant a year, and by the other a Month.

The third opinion
is refuted.

Thirdly, concerning such as would have ten of the ancient years as long, and no longer than one of ours ; It is answered, that these dreamers bring in as dry an assertion as the former. For, might this conjecture pass for current, then Men should be capable of Generation at seven, eight, nine, and ten years of age ; nay some must beget Children at little above six years old. As for example, *Seth* is said to be 105 when he begat *Enos* ; which 105 (by this account) amounts but to ten years and six months. Again, *Enos* begat *Kenan* at 90 : which number by the former reckoning, will make but nine : because there are but 9 times ten in 90. And as for *Kenan* he could be but 7 when he begat *Mahalaleel*. And *Mahalaleel* but six and an half, when he begat *Jared* : and of like age also must *Enoch* be when he begat *Methuselah*. All which are but gross absurdities ; and ridiculously have they erred whose folly hath been either the hatchers or nourishers of these opinions.

Let it therefore be that *Adams* time of life was 930 years, consisting of 12 months, measured by the course of the Sun through the 12 signs of the Zodiack, as we measure now ; and when these were ended, then he died : but had he not sinned, there had been no death to meddle with him ; both body and soul had been translated from Earth to Heaven, as the ancient Fathers have declared. And perhaps one other cause, why he lived so long after his Fall, was by reason of the relicks of that natural immortality, which was in him before the Fall. For (as one speaketh very worthily) if the Egyptians could embalm bodies artificially, that they could continue without corruption for so many hundred years ; how much more could God make *Adam's* body to have

continued without corruption naturally, if he had stood in innocency? Wherefore I will now conclude, and concluding say,

God * saw the works which he had made,

And good he found them all.

If therefore now they faint or fade,

'Tis cause Man caught a fall.

For every Creature * groaneth deep;

A change they wish to see.

They travel, seek, they want and weep,

Till Sons of God be free.

For then they likewise freedom have,

No longer kept in pain:

Come therefore quickly (Lord) we crave,

Renew this World again:

And in its kind, it being free,

'Twill praise thy Name as well as we.

* Gen. 1. 31.

* See Rom. 8.
19, 20, 21, 22,
23.

SECT. III.

BUt here perhaps some will object the words of Saint Peter, in his second Epistle, chap. 3. verse 10. namely, That at our blessed Lords coming to judgment, not only shall the Heavens pass away with a great noise, and the Elements shall melt with fervent heat; but the Earth also, and the works that are therein, shall be burnt up. How then can we pray to have this World renewed at Christs coming, seeing (by the Apostles words) it is then to be destroyed, and to be burnt up by the Fire, &c.

Object.

To which I answer, that the Fire which St. Peter speaks of, shall so end the world in respect of what it is, as that it shall renew it in respect of what it shall be. And so said he that sat upon the Throne. [Revel. 21. 5.] *Behold I make all things new.* So also said the Lord in the Prophecy of the Prophet Esay, *Behold I create New Heavens, and a New Earth: and the former shall not be re-*

Ans.

membr'd, nor come into mind ; as it is *Esa. 65. 17.* upon which place no doubt it was, that St. *Peter* grounded his expectation, of *New Heavens and a New Earth where-in dwelleth righteousness*, 2 *Pet. 3. 13.* Not new by Creation, in a strict and proper sense : but new in respect of change, or by way of Commutation. *Non per interitum pristinum, sed per commutationem in melius*, as St. *Hierom* speaketh ; Not by a destruction of the old, but a change into a better, through that new and refined state of the World that shall be then.

Nor is this the opinion of *Hierom* only, but of *Augustine*, *Basil*, *Epiphanius*, *Cyril*, *Theophylact*, *Oecumenius*, and divers other of the Fathers : and not amiss.

For first, it is nothing strange nor unusual, that by New we should understand a thing renovated or renewed. For thus our hearts are called New after Regeneration, which are not new but by way of Renovation ; And yet are new too, because there is such a change in them, that they that have them, being regenerate or risen again from sin, are become new Creatures ; yea, and called so in holy Scripture, 2 *Cor. 5. 17.* Nor in course of common life and ordinary speaking of things that have undergone a great change, is it otherwise : for in such a case it is usual with us to say, What a new face of things is here ! What a new World is this ! with the like expressions, barely upon some great change or alteration. Nay, sometimes we apply that manner of speaking to very small, and even particular and domestic changes ; as when we say, Here's a New World indeed : which (as the Learned Master *Mede* observeth) the Hebrew would, or might, express by this ; Here is a New Heaven and a New Earth. So that a new Heaven and a new Earth is the same notion with that in our expression, where we say a New World ; that is to say, *Nova rerum facies, Nova rerum conditio* ; A new face, or New condition of things.

So also, secondly, for the word [Create] by it we are

See his expof.
of 2 *Pet. 3.*

are not necessarily to understand a Creation in a strict and proper sence, but may as well understand it of an immutation and perfective alteration; as is that of the Heart before mentioned. For in *Psal.* 51. 10. we have *David*, rising out of his sin, praying thus; *Create in me a clean heart, O God, and renew a right spirit within me*, There is no need to boggle at this. for *David* elsewhere, speaking of the Heavens and Earth, saith of them thus; *They shall perish*. But then by and by he explains himself, and sheweth; That their perishing shall only be a changing. For, *as a vesture shalt thou change them, and they shall be changed*, *Psal.* 102. 26. He saith not, they shall be exchanged; as when one thing is put in the place of another; but changed; which implies an alteration in them, as when a Garment that is waxen old is changed through alteration, and by the skill of a Workman is so amended, as that it be better, newer, and fresher than ever it was since it first decayed. In a word, they shall be so renewed, by this great change which the Fire shall bring upon them, that the former state of them shall be as it it were forgotten, and come in mind no more: and therefore saith *Esay*, *And the former shall not be remembred*.

This the Apostle *Paul* makes more manifest, in the eighth Chapter to the *Romans*, at the 21 and 22 verses, where he saith; *The Creature it self shall be delivered from the bondage of corruption into the liberty of the glory of the Sons of God*. For we know (saith he) that the whole Creation groaneth and travaileth in pain together until now. And is it so that the Creature hath a natural desire in it to be delivered from the bondage of Corruption, then sure it is that it may put on incorruption, and not be brought to an abolition: for there is no greater Enemy to Nature, than not at all to be: And therefore the appetite or desire of Nature is never carried to an abolition, but to a Conservation and perfection.

By which we see that these Heavens and this Earth shall

shall not perish as concerning their substance, but as concerning these qualities of vanity, servitude, impotency, whereunto they have been subjected by the fall of Man. As Silver and Gold is changed by the fire, the dross perisheth, but the substance remaineth; so shall these Creatures be changed in that day, when there shall be nothing unchanged, because all things shall be renewed, and each thing brought into a perfect state: which St. *Peter* calls the times of refreshing, and restitution of all things, but are not to be till Christ comes to Judgment, as you may see plainly, if you please, in *Act. 3. 21.* And if that be the time of the restitution of all things, as we see it is, by what is there written; then must that also be the time when we are to have a New Heaven and a New Earth; not by an utter destruction of the Old, but by a change into a better: as hitherto hath been proved.

But I shall yet make this more manifest, by a full and more direct answer to the place of St. *Peter* at the first objected. Contrary to himself he is not, that's most certain: the words therefore by which he expresseth himself in his second Epistle, are said to be expounded, as not to clash with that which he said before in *Act. 3. 21.* nor with what *Paul* also said, in *Rom. 8. 21, 22.* And if so, then this must needs be his very meaning; viz. That when Christ our Lord shall come to judge the quick and the dead, which is to be (as *Paul* saith) at his appearing and his Kingdom, as you may see in *2 Timoth. 4. 1.* then shall it be that his coming in flaming fire also is, By the Divine and miraculous efficacy whereof, the World that now is, shall be refined, and delivered from the bondage of corruption, which came upon it for the sin of man.

For first, in the word *παρέρχεται* (which signifieth passing away) vers. 10. is an Hebraism, signifying any change of a thing from the state wherein it was. And secondly, in the other words is a Metaphor taken from the

the refining of Metals, *qua igne solvuntur ut purificentur* ; as may appear by comparing this tenth verse with the 12. For St. Peter having in the tenth verse said *πῶς αὐτὸς κατακαύσεται*, the Elements shall be dissolved, or loosed : he in the 13. verse repeating it, sayes, *πῶς αὐτὸς τανύσεται*, the Elements shall be melted : by which he implies the full purifying both of the Elements and Heavens in their Elemental qualities, whereby they shall pass into a better state than now they are in.

The like may be said of the Earth, in the dissolution thereof : *viz.* That in whatsoever it hath that which is obnoxious or corruptible, it shall be either burned to a Consumption, or renewed to a purity.

Some I know heighten this exposition to a more utter abolition, especially for the burning of the Earth : nor are they destitute of reasons for it. Howbeit (beside the little difference that is between us in the close of all) they exempt the Starry Heavens ; unless (saith Doctor Moor) you will call these Heavens Starry that are the receptacle of Sublunary Comets and falling Stars. So that all the destruction (saith he) which is threatned by the better-knowing Christians, is only to the Globe of the Earth, and the circumjacent Air, with all the garnishings of them, which shall be burnt up and destroyed : But the Air and Earth shall continue Air and Earth still ; but with such alteration as this terrible Burning shall work upon them. Thus he : in which I can see but little difference between His conclusion and Mine in this particular. For whereas I said even novv, concerning the Earth, in the dissolution thereof ; *viz.* That in whatsoever it hath that which is obnoxious or corruptible, it shall be either burned to a consumption, or renewed to a purity. He (as you see) saith : But the Air and Earth shall continue Air and Earth still ; but with such alteration as this terrible Burning shall work upon them.

Mystery of
Godliness, 1. 6.
c. 7. Sec. 2.

And questionless the alteration must needs be great,
vwhen

when such a fire comes as will not only kill the living Creatures, fire the Woods, and consume the most stately Structures that are under Heaven : but also seize upon the Turff of the Earth, calcine Stones, melt Mines of Metals, fire pits of Coal and Sulphur, and cause the burning of such Hills, as be stored with plenty of such matter, to vomit out their flames to the horror and destruction of ungodly men. And who knows but that the rage of these flames may reach as high as the middle Region of the Air; and so the whole host of the sublunary heaven be inevitably subject to the fury of this more than greatest Conflagration that ever hath been yet. For now the Clouds and other Meteors shall perish, together with all those Creatures whose proper place is the Air. And although the operation of this Fire shall not be upon the Wicked Spirits of the Air to consume them, yet it shall no doubt (through the power of Almighty God) exile and banish them thence for ever, to be bestowed in those more dismal places of everlasting fire prepared for them, of which our Saviour speaks in *Matth. 25. 41.*

And this is that which I think of the end of the World, and take to be the meaning of St. *Peters* Prophecy. Moreover, it is said in *Genesis*, that at the destruction of *Sodom* and *Gomorrhah*, the Lord rained Brimston and fire from the Lord out of Heaven, *Gen. 19. 24.* where, though by Heaven we understand the sublunary Heaven, or that Region of the Air, which is the place for fiery Meteors ; yet it is not unlike, but that the nature of the soil below, being full of pitch and slime, or other combustible matter [*Gen. 14. 10.*] did much increase the combustion. The like I think of the destruction of the World by fire ; viz. That that which kindles all the rest comes fired from above, and will no doubt be as sudden as that which destroyed *Sodom*. For that the fire of *Sodom* was sudden, appeareth in *Lam. 4. 6.* And so in *Gen. 19. 28.* *Abraham* saw the smoak of the
Land

Land mounting up, but saw not the rain of Fire and Brimstone, and yet he rose very early; but not till about Sun rising: for till then the burning began not, as may be gathered by the time that *Lot* entred into *Zoar*. The like I believe will be at the end of the World; the fire will come on a sudden, and begin the kindling with such violence, that none shall know how to quench it; only as *Lot* was delivered out of *Sodom* before the City was fired, and *Noah* shut into the Ark before the World was drowned: so shall the faithful people of God, that be alive at the last day, be changed in a moment, and rescued by being caught up from this fire that *St. Peter* speaks of, to meet (as *S. Paul* saith) *the Lord in the Air: and so shall ever be with the Lord, 1 Thes. 4-17.*

SECT. 4.

BUt some make a shorter cut than thus, of most of this. For they apply *St. Peters* Prophecy of the Heavens passing away with a great noise, &c. to the destruction of *Jerusalem* by the Romans: and the New Heaven and the New Earth, they apply it to the New World of the Gospel after that time. But this is a strange interpretation: for if this be granted, then must *Noah's* Flood be but the drowning of some eminent City or Nation in the World, and not of the whole World it self; which were intolerable to be imagined. For the Apostle speaking of the Flood first, brings it as an argument of another change afterward, which is to be by fire, as that first was by water. And as the first overflowed the whole World, so must this second; as is easie to see, and may as well be granted as to yield the seventh verse to contain a description of the whole compages of this sublunary World, and all the Creatures that are in it, even all that was destroyed by the Flood, and is now secured from perishing so again, but

is reserved for fire, &c. Beside, Christs coming against *Jerusalem* was not so sudden, as to sweep them away with a sudden destruction; whereas the coming of the Day of the Lord that St. *Peter* speaks of, is to be as a Thief in the night; with many other circumstances; which certainly mean some other thing than the burning of a City by War; and then that New World of the Gospel which was after it. Read the whole Chapter, and compare it with St. *Paul's* Day of the Lord, mentioned in the *1 Thes.* 5. 2. and if after that, you that look can see no further than *Jerusalem*, I am sorry for it.

SECT. 5.

AND now for the further clearing both of this and some other passages pertinent hereunto, let me add something considerable concerning the coming and Kingdom of Christ: for, being therein well instructed, many other rubs will be removed. Know therefore, that though there be degrees in the progress of Christs Kingdom, in regard of the Worlds indisposition to submit to it, yet *de jure* all is Christs at his Ascension. And as his Kingdom began then, so it first of all manifested it self at the destruction of *Jerusalem*, with which the tribulation of the Jews began, and is to continue till the times of the Gentiles be finished.

This is not that Kingdom which Christ hath as he is co-eternal with his Father; for that's a Kingdom which hath no beginning: but it is a Kingdom which by the Ancient of days was delivered to him after he became the Son of Man, as *Daniel* sheweth in his 7. Chap. at the 13. and 14. verses: and of which St. *Luke* also speaketh in his Gospel, Chap. 19. v. 12. For, though it be said in *Daniel*, that he came in [or with] the clouds of Heaven, when this Kingdom we now speak of was given unto him; yet the express words of the Text do likewise tell us, that for this he came to the Ancient of Dayes.

That

That Scripture therefore points at the time of Christs Ascension, when he ascended up through the clouds from us, and came to his Father: the Majesty and Glory of whose Kingdom is described before at the ninth and tenth verses, and set forth after the manner there mentioned, by occasion of the vision of the four Beasts which had been shewed before. For though it appeared by the marvellous description of those Beasts, that they should be very great and terrible, especially the last; yet the great God of Heaven and Earth is shewed to be mightier, and doth as soon declare the degree of their ends, as shew their beginnings. And that I take to be the reason why he is described sitting in Judgement, rather than after any other manner: for if we mark it, we shall find, that this vision of the Ancient of Dayes, sitting in Judgement, did as well concern the * three first Beasts as the last Beast, and did withal re-
 * See Dan. 7.
 12.
 veal unto Daniel how Christ ascending into Heaven had a Kingdom delivered to him by God the Father, which must last till the end of the World, and then he delivers it up again; even then when the great day of Judgement is ended: to which Christ is to come by another manner of appearance than ever before, and to be as fully and corporally present in person to judge the World, as ever he was before his Ascension in those times when he came to seek and to save that which was lost. For to speak properly, there is but a first and a second coming of Christ personally, and in respect of his bodily presence: yet otherwise there is a manifold coming of Christ. Sometimes one way, sometimes another: sometimes in respect of his spiritual presence to believers; sometimes also in respect of the manifestation of the power of his Kingdom before spoken of, when he gives open evidence of his invisible Power over and against the vile and great Enemies thereof: For thus, though he sitteth at the right hand of God, he is a Ruler even in the midst among his Enemies, and shall

* Joh. 21. 22.
See also Mar.
16. 28.
Mar. 9. 1. and
Luc. 9. 27.

come at last from thence personally, that he may utterly destroy and tread them all under his feet. He did not come personally when *Jerusalem* was destroyed, and yet then was a coming of Christ in his Kingdom, which *St. John* lived to see; for he was alive till even the dayes of *Trajan* the Emperour: and therein was that fulfilled * of *Johns* tarrying till Christ came. And thus he hath come at other times to help the distressedes of his Church, as in the dayes of *Constantine*, when he shewed him the sign of the Cross in the sky, and told him that under that Ensign he should prevail. Thus also he came against the *Apostata Julian*, not only when he got the Jews together and would have them build up their Temple, but also when he fought his last fatal battle, and (being mortally wounded therein) threw some of his blood up towards Heaven, crying out and saying, that Christ of *Galilee* had overcome him. So also in the dayes of that good Emperour *Theodosius*, he came against *Hyparchus* and *Eugenius*, even then when they went about to root out Christianity out of the Empire, and were purposed that the name of Christ should he had no more in remembrance.

2 Tim. 4. 1, 2.

I confesse indeed that that of *S. Paul*, in the second Epistle to *Timothy*, the fourth Chapter, at the first and second verses, have respect to Christ's personal coming, and is the same with that in *Hebr. 9. 28.* where it is called the second time of his coming, because in proper signification he never came personally but once before, though spiritually and in power he had come often before, as hath been shewed. The words of *Paul* to *Timothy* (in the place above cited) are these; *I charge thee before God and the Lord Jesus Christ, who shall judge the quick and the dead, at his appearing and his Kingdom: that thou preach the Word, be instant in season and out of season.* Which words of *Paul* relate certainly to Christ's coming in person properly taken at the end of the World, when all that are in the Graves shall

(shall come forth, that both quick and dead may be judged by him: and therefore *Pauls* charge to *Timothy* is, that he perform the full duty of his office in a diligent preaching the Word of God, lest he be found guilty of neglect at that time of Christs coming.

Only that which troubles some in the full understanding of this Text is, why Christs Kingdom should be joynd here with this his second coming. To which I answer, it is not sure in respect of inchoation, but in respect of a full and final manifestation of his Kingdom; this being the time when it should appear to all the World, that Christ had such a powerful Kingdom given him of his Father, that he should be the Judge both of quick and dead: *For the Father judgeth no man, but hath committed all Judgment to the Son, that all Men should honour the Son, as they honour the Father, Joh. 5. 22.* Christ therefore being now to judge all men, was to make it appear to all men that he had a large Kingdom committed to him, even as he was the Son of Man; which he must hold till this great Judgement Day be ended, and then he shall deliver it to God the Father, *1 Cor. 15. 24.* This then being the highest progress of his Kingdom, shall in a full measure convince all the opposites of it to their eternal shame, ruine, and condemnation. And this I take to be the true reason why Christs appearing and Kingdom are joynd together.

But if at the end of the World Christ shall deliver up the Kingdom to God the Father, how is it true that God hath put in subjection to him the World to come; as the Apostle telleth us, in *Heb. 2. 5.*

To this I answer, that the ambiguity rests I suppose in the words; the World to come: which do not mean the time after the last Judgement, but the time after the first coming of Christ till the end of the last Judgement. For as appeareth in the first Chapter, the Apostles discourse looked both into the old time before Christ, and into the New time after Christ: the one being

ing that wherein God spake unto the Fathers by the Prophets; the other, that wherein he hath spoken to us by his Son. Which last, in respect of the old time before it, might well be called herein this discourse, the time of the World to come, though in part come then when the Apostle spake thus of it. For he writes to the Jews (here called *Hebrews*) with whom was an account of two Ages, the one before, the other after the coming of the *Messias*, which in respect of the former is called the future Age, or World to come. Not that it is to be always taken in this sense, though here it be.

And as for that Criticism fetcht by some from the supposed wrong Translation of the sixth verse in the same Chapter, it is altogether light, and of no weight: for, grant it so as they would have it, what can it import but that when God bringeth his Son again into the World, all the Angels shall worship him, which is true; for when he comes again the second time, which is to judge the World, he shall come in Glory, and all the holy Angels with him, *Math. 25. 31.*

But in what particular year this coming of his shall be, I will not take upon me to determine.

S E C T. 6.

HOWbeit this I know, because I learn it from the Scriptures, That the whole time of this Worlds continuance, may be divided into six Ages: and that the seventh shall begin at the Resurrection, as was figured by *Enoch* (the seventh from *Adam*) who died not, as did the six Patriarchs before him, but was translated.

The first Age is from the Creation to the end of the Flood, and is called by *St. Peter*, the Old World, *2 Pet. 2. 5.*

The second is from the end of the Flood to

Abraham.

The third, from *Abraham* to *David.*

The fourth, from *David* to the Captivity.

The fifth, from the Captivity to Christ.

} *Mat. 1. 17.*

And

Jude ver. 14.
Gen. 5. 24.

And now Christ being come, we are they upon whom the ends of the World are come, 1 Corin. 10. 11. For God, who at sundry times and in divers manners, spake unto the Fathers by the Prophets, hath in these last dayes spoken to us by his Son, Heb. 1. 1. So that the sixth Age is from the first coming of Christ to the great Day of Judgement, when he shall come again, Heb. 9. 28. Every day and hour brings that time nearer and nearer unto us: and when Men shall say, Peace and safety, then shall come upon them sudden destruction, as the travail upon a woman with child, and they shall not escape, 1 Thes. 5. 3. Happy therefore is he that is always ready for either death or Judgement. For he that is out of breath before his journeys end, cannot be said so to run that he may obtain. *O ye Hypocrites* (saith our Saviour to the Jews) *ye can discern the face of the sky, but how is it that ye do not discern this time?* Luk. 12. 56. By which we see the Jews were blamed, and called Hypocrites, for not discerning the time of Christs first coming: God grant we be not as negligent in looking after the time of his second coming. It will be as if it were Noah's Flood returning, and is therefore by *Irenaeus* called *Diluvium ignis*, the Deluge of fire. It will be also as in the dayes of Lot, so great shall the security and wickedness of the World be, when the Son of Man cometh.

And all this, because Men in the general are too negligent on the one hand, and too indolent to their present enjoyments on the other hand; not regarding the Prophecies of the Scripture that concern it, nor the signs and tokens that are to go before it: but do, many of them, rather help to fill up the iniquities of these Times, which are the infallible fore-runners of it. For thus some, out of a needless scrupulosity, neglect the studying of the *Revelation*; and others, out of a careless security, mind nothing that tendeth to godliness of life, sobriety, and watchfulness. For the truth is, these latter are loth to be roused out of the seeming-sweet-

1 Chron. 5 c. 29.
See also Luke
7. 26, 28, 29

sweet sleep of their beloved sins ; they mind neither their own end, nor the Worlds end, but regard both alike. And the other (though upon no good ground) think it a daring presumption to meddle with the interrupting of that Book ; whereas they might rather suspect it to be a principal stratagem of *Satan*, to deter them from it. For he knoweth it to be a Prophecy that passeth through all the Ages of the Church, even down to the great and dreadful Day of the appearance of our Dearest Lord ; and that there be more sundry pressing importunements to read it, than can be shewed for the reading of any other Book beside. *Blessed therefore is he that readeth, and they that hear the words of this Prophecy, and keep those things that are written therein, Rev. i. 13.* But who can be blessed in reading, if he read not ? or who can possibly keep those sayings, which by reading he cannot understand ?

Howbeit I speak not this to encourage those factious Spirits, and blind abettors, whose glosses on it are inconsistent with the other Scriptures : but I speak it, because I would that all other men, Learned and moderate, should search and see, if it be not the Devils method of fallacy, to cast some veil of prejudice upon such Scriptures, as carry in them the greatest and most advantageous discoveries to the Church. Of which nature sure this Book of the *Revelation* is, Christ *Jesuse* had never given it, as the last token of his love, to his dearest Spouse ; nor sent it by that Disciple, whom he loved most.

But wisthake take special heed, as well of the phanatick glosses of *Mr. Brightman*, as of the opinion of the *Millenaries* ; whether they be the gross carnal *Millenaries*, or others more refined. For, take their opinion which way you will, it is not only groundless, but of a sad dangerous consequence ; though I think verily *Mr. Mede* never thought so when he strove to have it held *apertius*, as he speaketh : that is, *antiquo more, sive antiqua simplicitate.*

plicitate. But truly, even this sort of Millenaries was condemned long ago in a Council holden at *Rome* by *Damasus* Bishop of that place, in the year of our Lord 373, as Mr. Gerard in his Common Places accounteth. *Et veteres haereses recensere, est eas ferere;* And to recite old Heresies, is to sow them anew. And therefore though of late the opinion be again revived, and among some brought into a better order and method, and somewhat more refined than formerly; yet if it still be (as at the first) without a good bottom, what reason have we to embrace it? especially considering how it occasions the Phanatick sort of People to gape after a fifth Monarchy, in a personal reign of Christ upon earth for a thousand years; which (as Dr. *More* hath well observed, and as experience also teacheth) can be nothing else but the thirsting after spoil and blood, many men being stimulated thereto by the secret sting of the old serpent in envy to the Church of Christ, hoping to root out the Gospel by destroying of seled Authority, and by starving the Ministry, and so to bring in a rabble of Fanatical superstitions, or Atheistical prophaneſſes. Thus he in his grand Mystery of Godliness, *lib. 5. cap. 17.* shewing a little before, how hot spirited men would raise a Fifth Monarchy by blood and rapine, and tumble down all Government, according as either their own enthusiastick heat shall instigate, or opportunity invite or give leave; pretending that all Authority, all Orders and Degrees in this Fourth Monarchy are unholy and prophane; and that they [the Fifth Monarchy men, who will have no King but Jesus] are the Pioners to level all plain, and break all Government in pieces, that Christ the Fifth Monarch may personally come and begin his Millennial Empire upon Earth. But the Apostles Doctrine was, that every soul should be subject to the higher powers, even then when the Emperor was an Heathen; much more should they be subject now when the Kings or Monarchs under whom they live, are Christian.

Rom. 13. 1, 2.

&c.

Object.

But some perhaps will be ready to say, that when the seventh Trumpet soundeth, all the Kingdoms of the World must become the Kingdoms of the Lord and of his Christ, *Rev. 11. 15.* True: but doth it therefore follow, that they must be rooted up and destroyed? No: but that they must be subdued to the obedience of Christ's Scepter, by being converted to the Christian Faith; and so shall Jesus be their King by ruling in them, as before their conversion Satan was, who worketh in the hearts of the Children of disobedience, *Ephes. 2. 2.* See also *Psal. 47. 9.* where in the same sense, the shields of the earth are said to be the Lords.

Answer.

The time indeed will come when Christ shall put down all Rule, all Authority and Power: but then will be the end of the World, when [having done all that] he shall deliver up the Kingdom to God the Father, as we read in *1 Cor. 15. 24.* how then can Christ reign a thousand years after this?

Howbeit, they who take up this Opinion of the thousand years, so as Doctor *Homes* and the Fifth Monarchy men have done, fondly gather from hence; That the Church (by which they mean themselves) shall enjoy such a flourishing time on Earth, reigning there with Christ their King, that they should have no enemies, no sin, no sorrow, no Rulers or Powers to molest them. Whereas they who expound the words according to their meaning, tell us that the Apostles drift there, is only this; having proved before by many irrefragable Arguments the Resurrection of the body, and thinking some might desire to know in what condition the World would be after the Resurrection; viz. Whether they should not need Magistrates and Ministers then? No saith the Apostle, we shall not need them. Why so? because then cometh the end. Magistracy then shall cease, the Churches warfare shall cease, for her Enemies shall then be totally destroyed, and she shall enjoy perfect and immediate Communion with God in Heaven, who will

See this thus in
Mr. Hall's
Treatise a-
gainst the
Millenaries,
pag. 30.

will be all in all to her, so that she shall have no need of Sun, Moon, or Stars, for the Lord himself will be her light. All Rule, all Authority and Power (be it good or bad) then shall cease. The Church will then have no need of good ones to govern her, and bad ones shall no longer molest her, for the time of her Warfare is accomplished. Thus Mr. *Hall* in his Treatise against *Millenaries*.

Beza, I confess, understands the words in a restrictive sense, restraining them to the subduing only of bad Rulers, and those Adversary Powers which opposed the Kingdom of Christ. But Mr. *Calvin* more rightly understandeth good Governors as well as bad, and indeed all Government in general. The best way is to agree to him, and not restrain the words from that large and general sense which they carry with them: For when once the end of the world cometh, God will no longer rule by substitutes or Vicegerents, but he himself will be all in all; insomuch that even Christ himself shall then deliver up the Kingdom to God the Father.

Not that upon this surrender Christ ceaseth to be a King; for his natural and essential Kingdom, due to him as he is God co-essential with the Father and holy Spirit, abideth for ever. Or more plainly, thus; Christ will reign no longer than as now; for now he reigns in the midst of Enemies, now he rules immediatly by Magistrates, by Ministers, by Ordinances, and by supplies of the Spirit. But then (*viz.* at the end of the world) this present manner of administration shall cease, Christ will govern no more by Officers, but that Power and Kingdom which he hath received from his Father, he (having finishd the Work which he gave him to do) surrenders it up again unto him, that so God may be all in all, and we may no longer enjoy him in the use of means, but have an immediate enjoyment of him in full degrees of Glory; as is gallantly observed by Mr. *Thomas Hall*, in his foresaid Treatise against the *Millenaries*, p. 32.

And as for Master *Medes* opinion of these thousand years, though it differ much from sundry Learned Expositors which were before him, and from some of eminent parts and Piety which have come after him; yet to speak truly he held it within such bounds and limits as that he neither warped to carnality, nor intended in the least to gratifie the Phanatick Enemies of either Church or State. For it is well known that he was no friend to such doating Euthusiasts nor rebellious Subjects; for he was indeed a Man of more than ordinary Piety, and as well eminent for that as for his very much Learning. They do ill therefore who take occasion from what he wrote upon this Subject, to carry on their designs beyond what they find in Him or his Writings. Which I do not speak to justify this his opinion; for his very friends have wished that he had meddled less with it; yea, and himself also hath submitted it to the judgment of the Church: as in the end of his Comment upon the *Revelation* may be seen. These things, Reader, I have (saith he) discussed, not rashly affirmed. I leave the whole matter to the Church to be determined by the Word of God: to the judgment whereof, as it is meet, I do willingly submit mine own opinion concerning this mystery.

S E C T. 7.

Till I am better informed, I think this the best Account of the 1000 years.

AND for my self, I think it best to follow their Account, who begin their reckoning of these Years from the dayes of *Constantine* the first Christian Emperor, and end it at the planting of Mahomedism in *Greece* (a special part of the Roman Empire) by *Ottoman*. For, beside the reasons that might be alledged to prove it, I can see no reason at all why the World should be 6000. Years old before this *Chilad* beginneth; or if not so old then, why it should be 6000 (neither more nor less) when it endeth. For neither will the Division

Division of the whole time, into the six Ages before mentioned, yield it; nor will the testimony of that *Rabbi*, from whom we have it, be a sufficient ground to prove it: no, though it be helped out by such reasons as others have thought on, the better to defend it.

I shall briefly set down both: and shall shew first that it is a Tradition which the Jews fetch from the School or house of *Elias*, who was not *Elias* the Prophet, but a *Rabbin* of the same name, as the Learned know; and who more fabulous, or more full of vain phancies, than those their greatest Doctors?

Six thousand Years (saith he) the World shall stand, and then it shall be consumed by fire. Two thousand Years it shall be void or without Law; Two thousand Years shall be under the Law; And the last two thousand shall be the dayes of the *Messiah* or Christ. Thus saith *Elias*.

And that this opinion hath been favoured by *some of old, and is also favoured now by some of our time, I am not ignorant: which chiefly they do for this reason; namely, because the six dayes Weekly labour do bear the Symbole of 6000 years, wherein Mankind should endure the cares, and troubles, and travels of this World; and then shall come that Sabbath of Sabbaths in the Heaven of Heavens, when they are to rest from their labours. For, as God was Six days in Creating the World before there was a Sabbath: So he shall be 6000 Years in governing it; and then the seventh begins an eternal Rest in Heaven.

Now this they ground upon the words of *St. Peter*; who, speaking of the Day of Judgement, noteth that a thousand Years in Gods sight are but as one day, and one day as a thousand Years, 2 *Pet.* 3. 8. So that in this regard, for six dayes of Weekly labour, they would have 6000 years of worldly trouble, and the like, before it endeth.

* It was favoured by *Iust. Martyr*, *Irenaeus*, *Lactantius*, *S. Hieron.* &c. but not by *S. Ambrose* or *S. Austin*. See him on *Psalm* 90.

But

But if this be all they have to urge, 'twill prove at last as much as nothing. For first concerning the *Rabbin*, had he been a Prophet, he would certainly have been a better Seer. This I am sure of, that he was much deceived in the particular division of his time, in making three periods, all of 2000 years a-piece. For although the years of the World have been diversly accounted by sundry Authors; yet you shall not find the *Rabbins* just number of 2000 years, from the Creation to the Law, in any of them. *Scaliger*, *Calvisius*, *Helvicus*, *Fuencinus*, *Bucholcerus*, and others, who reckon the fewest years, do account 453 above two thousand; and yet they reckon not so many as they should, by 60 Years; as may be seen by *Calvin*, *Junius*, *Parus*, *Ainsworth*, and Doctor *Willet* upon *Genesis*; beside many excellent Chronologers; especially the late Learned Primate of *Ireland*, in his *Chronologia Sacra*, and Sir *Walter Raleigh*, (that Learned Knight) who in his History of the World makes it plain. So also may be seen by what I my self have written in another Book which treats of Chronology; in which Book I account indeed 4000 from the Creation to the true time of the Birth of Christ; but not so as the time from the Creation to the Law must have 2000 of them, and the other 2000 be from thence to the time of Christ aforesaid. For, from the Creation to the Law were 2513 compleat; the Law being given in the beginning of the Year of the World 2514. from whence to the Birth of Christ were no more than 1486 Years, with about nine months over. Whereupon is manifest, not only that this *Elias* doth fail in his first division, but in his second also. Nay, suppose we go as far as the death of Christ, yet from the Law thither, will (by true account) be but 1520 Years; which in *Scaliger* is 1529: the like number *Calvisius* likewise hath, so also *Helvicus* in his Tables of Chronology. But neither in them, nor in any else do we find 2000. *Bucholcerus* (I think) wanteth the fewest; and yet even he

he comes not up fully to the mark, but is far short too, as well as the rest.

If then for the time past the Rabbin be found faulty, we have little reason to give him credit for the time which is yet to come; but may rather think, that as he hath deceived us in the one, so he will deceive us in the other.

I conclude therefore, that this Testimony or saying of *Elias* is not authentick, but is of very good use nevertheless: for it maketh indeed against the *Jews* (who entertain it as a true Prophecy) to prove against them, the *Messiah* or Christ is come, seeing there are 5665 years of the 6000 already run out: but it prevaileth nothing to shew the end of the World, for which cause it was chiefly intended.

Come we now then to an examination of that fore-named place in *Peter*, which is brought by some Christians as an help to uphold the *Jews* opinion, because a Day taken for a Thousand Years, and applied to the six Weekly Days, seemeth to point out six thousand Years: so some imagine. But without doubt the Apostle meant no such thing; nor had it in his mind to set down any strict manner of accounting times, peculiar to the Court of Heaven: For mark but the circumstances of the place, and view well the occasion given him to speak so as he did of the Lords coming to Judgement, and you will soon find that it was to comfort the Godly against the Cavils and reproaches of those wicked ones, whom he said would come in the last days, and say; *where is the promise of his coming? since the Fathers fell asleep, all things continue as they were from the beginning of the Creation,* 2 Pet. 3. 4. Which words are, as if those Scoffers (for so he calls them) should say; is it not a great while since the World began, and yet what alteration can we see in it? Yesterday was as this day: Men are born and dye as orderly as ever they did: Nature keeps her course, and the like: Wherefore if the Judge had meant

meant to come or shew himself at all, he would not surely that his coming should be thus long deferred, but would rather have shewed himself before thus many years could possibly be born. Thus is their cavil, as the fourth verse sheweth, in which they declare themselves to be like minded with those, who in St. Pauls time mocked and cavilled at the Resurrection, 1 Cor. 15. 21.

St Peter therefore, that he might comfort the Weak, and confute the Wicked, sheweth how to answer this their faithless Objection; namely thus, That first these mocking Cavillers forget the Flood in the dayes of Noah, when all the World was drowned but eight Persons. Secondly, they consider not, that although the next destruction thereof, which is to be by Fire, be long before it come in respect of us, yet to God (with whom there is no time either long or short) it is not so. A day compared with an hour, to us may seem long. But a thousand years compared with a day, to God may seem but short; for what is time to eternity? And therefore though that day to the faithless seems to be taken away, or deferred rather, as if it were not or would not come because it quickly comes not; yet know that it is not quite taken away. For, (as the same Apostle speaketh at the ninth verse) *The Lord is not slack concerning his promise, as some account slackness; but is long suffering to us-ward, not willing that any should perish, but that all should come to repentance.* Which words, compared with them in the verie before, do without question shew that the Apostles meaning is far different from their phancies who from thence would fain gather, that for one Day God useth to account a thousand years, and a thousand years for one day. Marlorate explains it thus; *Hic sermo (saith he) est de estimatione hominum, qui non aequè estimant tempus longum & breve.* This speech is according to the estimation of Men, who do not equally esteem of times long and short.

Which also doth yet further appear by that in the

90th *Psalm*, at the fourth verse. Where, as there is a comparison likewise between 1000 Years and one Day; so also, in respect of God, a thousand years are compared to that which is less than a day, namely to a watch in the night. For, (saith the Prophet there) *God turneth Man to destruction*, and then he saith, *Turn again ye Children of Men. For a thousand years in thy sight are but as yesterday, and they are gone as a Watch in the night.* To which purpose *S. Hierom* speaketh also fully, saying, *Aeternitati comparatum omne tempus est breve*; that is, All time compared with Eternity is but short time, yea, indeed as no time.

Let therefore they who will, embrace this phancy of six Thousand years for the whole time of the Worlds continuance; I cannot. For sure I am, the Tradition of *Elias* hath greatly failed, for the time that is past: if therefore it should be true for the time which is yet to come, it were more than an unheard of Wonder. And as for the argument taken from *S. Peter* to uphold it, how his meaning hath been thereby forced, is declared.

Yet nevertheless, I deny not that the World (as I said at the first) shall stand six Ages before it endeth; and so the Ages, although not the Years, may be compared to the six dayes of Weekly labour: But that each Age should have a Thousand Years, is still denied; and as in setting them down according to Scripture will be manifest.

For the first (which is from the Creation to the end of the Flood) hath 1656 Years.

The second (if we end it at the beginning of *Abrahams* peregrination and giving of the promise) hath the number of 427 Years.

The third (if we end it at the death of *Saul* and beginning of *Dauids* Kingdom after him) containeth the number of 866 Years.

The fourth (if we begin the Captivity in the first Year of *Nebuchadnezzar*) hath 448 Years.

The fifth containeth the length both of the *Chaldæan*, *Persian*, and *Grecian* Monarchies ; together with so much of the Roman greatness as was past before Christ came into the World : amounting in all to the sum of 602 Years, or thereabouts, although we reckon no further than the Birth of Christ. But go rather to his Baptism, and then this Age is 622.

The sixth and last hath already had so many Years as are from the time of Mans Redemption until now : for hitherto this Age hath continued, and shall not be ended until the Day of Judgement beginneth, *at the sound of the last Trumpet. For the Trumpet shall sound, and the Dead shall be raised incorruptible, and we* (saith the Apostle) *shall be changed*, 1 Cor. 15. 52.

But is not this the Year of our Lord God 1661. when I write these things ? Yes sure, by common account it is. What's become then of those admired Calculators, who with their *MUNDI Conflagratio*, have heretofore tied us up to the Year of our Lord 1657, as others before them to other Years which they gathered out of the Numeral Letters of such like sentences ? The times are past, but the event hath not answered to their phancical predictions. I may justly therefore say of them ; That as Time was little beholding to them in cutting it off so short ; so were they as little beholding to Time for discovering their Lies so plainly. For that they, and all else who busie themselves in such predictions, do but wily tell us foolish tales, and smoothly bring long lies to an end, is more than manifest. They who have a desire to lanch thus far into this Deep, have pried too far (I fear) into the secret of the Thunderer, because they use to say much more than they have warrant for. For that Lesson which Christ taught his Disciples is also ours ; *not to know the Times or the Seasons which the Father hath put in his own power*, Act. 1. 7. The signs indeed are to be regarded, and all are to be watchful and prepared ; but to determine precisely of the time, is more

more than the Scriptures will allow them. It is therefore a good lesson, which *Du Bartas*, as he is translated by our famous *Sylveſter*, gives them: for thus he ſaith;

*You have miſ-caſt in your Ariſmetick,
Miſ-laid Your Counters, gropingly ye ſeek
In Nights black darkneſs for the ſecret things
Seal'd in the Caſket of the King of Kings.
'Tis He that keeps th' Eternal Clock of Time,
He holds the weights of that appointed (hime,
And in his Hand the ſacred book doth bear
Of that cloſe claſſed final CALENDER,
n here, in Red letters (not with us frequented)
The certain Date of that Great Day is Primed;
That Dreadful Day, which doth ſo ſwiftly poſt,
That 'twill be ſeen, before foreſeen of moſt.*

I conclude therefore with that excellent ſaying of *St. Bernard*; namely, That when this great Day of the Lord cometh, pure hearts ſhall prevail more than ſubtil words, good Conſciences better than full Purſes: for the Judge will not be deceived with words, nor moved with Gifts. Nor is there any that can avoid him, but all muſt be ſummoned to appear before him. *For we muſt all appear before the Judgment ſeat of Chriſt. that every one may receive the things done in his body, according to that he hath done, whether it be good or bad, 2 Cor. 5. 10.*

*Thoſe that were laden with proud Marble Tombs,
Thoſe that were ſwallow'd down wild Monſters Wombs,
Thoſe that the Sea hath drown'd, thoſe that the ſeaſbes
Of ruddy flames have burned all to Aſhes,
Awaked all, ſhall riſe, and all revereſt
The fleſh and Bones that they at firſt poſſeſt.*

*" But ſome muſt Juſtice, ſome muſt mercy taſte;
" Some call'd to joy, ſome into Torment caſt.*

*Du Bartas day
of the firſt
Week.*

Soli Deo Gloria.

FINIS.